

# hard core

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OF THE  
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USER GROUP



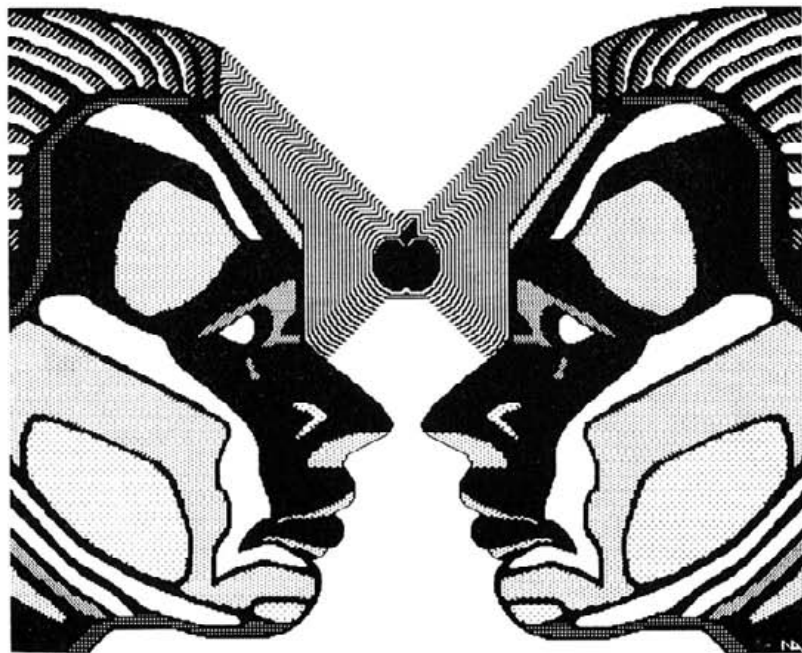
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This issue of **HARDCORE** was printed on a Juki 6100, mainly with the aid of **FORMAT 80**, **Madeleine** and **Herald Elite** daisywheels. The Editor is extremely grateful to Mark Whelan of Elite Software for his considerable help.

Front Cover: Produced by Norah Arnold on a Macintosh. The December cover was also done by Norah, but on an Apple II, not a Mac as stated.

## Editorial

So, this is Hardcore ! After arranging my first edition, I think that now I understand the significance of 'Hard' in the name ! The experience has impressed on me, again, the incredible enthusiasm and devotion shown by the people who start and run organisations like BASUG.

Well, who is this Editor bloke you have never heard of before ? Certainly not a computer whiz kid ! On the face of it, well qualified with an upper second in Zoology and a Ph.D., gained by part time research, in Parasitology. But, the onset of rheumatoid arthritis at age 44 made me wonder just what these qualifications were worth. What the hell, I did them because I wanted to. It's a shame that hardly anybody supports research into some of the diseases which affect millions of people in the third world, but that's politics.

I came into computing later in life, directly as a result of disability. The Apple first served as a sort of much needed mental bicycle, later it was and now is used for more practical purposes. Though my experience with other computers is limited, I still feel that the Apple II series is good. The range of serious applications to which these machines have been put is a testimony to their real value to society in general. Therefore, it is all the more regrettable that progress is so often seen, by manufacturing companies, in purely financial terms. Personally, I still feel that people are worth while.

What of Hardcore's future ? Evolution is inevitable and we hope to selectively develop the magazine along the lines suggested by the Chairman, on the basis of the excellent work done by previous editors. I only hope I can match their enthusiasm and competence. As ever, we need writers. We need expertise in interesting areas, so if you are an expert don't keep it to yourself, tell us all about it. If you are not an expert, but more of a fiddler, play us a tune with your WP. If you need help, write a letter. There is a tremendous amount of talent out there.

## DATA PROTECTION ACT

This item is included simply for information. We expect to have an authoritative article on the subject in our April issue. The Act is concerned with the use, storage and processing of personal details by automatic equipment. It is intended as a control and regulation measure, in particular, where there is a risk to a person's privacy.

Sections 23 and 24(3), which deal respectively with compensation for damage caused to a person by loss or unauthorised disclosure of data, and the right to have information corrected or erased, came into effect on September 12th 1984. The Home Office has indicated that other parts of the Act will come into operation at various future dates. In particular, the provision for registration, which seems likely to affect a large number of computer users, seems due for implementation during the period July to September 1985, with the appointment of a Registrar.

Obviously it would not be appropriate for me to attempt to deal with any details, though I do note that Part IV deals with exemptions and that Section 33 exempts personal data which is held by an individual for the purposes, only, of managing his household, family or personal affairs or which he holds only for recreational purposes. But, it seems that organisations like BASUG will have to register, along with many businesses. Obviously, those who could be affected should consult a lawyer at the appropriate time.

The Registrar's address is:-  
The Registrar,  
PO Box 465,  
Manchester, M60 7ED.

Apart from the Act itself, a very useful reference which can be consulted is:-  
Sizer R. & Newman P. The Data Protection Act. A Practical Guide for Managers and Professionals Incorporating an Annotated Copy of the Data Protection Act 1984. 236p., Gower, 1984. ISBN 0 566 02445 4.

# Chairman's Corner

By Quentin Reidford ['Q']

Being elevated to this position now means that I have the unenviable task of trying to follow in the foot-steps of Bob Raikes who has expended an enormous amount of energy and enthusiasm into his period as BASUG Chairman. It seems appropriate to say thanks to Bob, as without his enthusiasm I am sure that BASUG would not exist to-day. Thanks also must go to Yvette, Bob's wife, who not only helped and encouraged him during his chairmanship, but also managed to edit 'HARDCORE'. Goodness knows how you both did it, but I hope you enjoy a well earned rest.

I must also announce that John Rogers has resigned from the committee because, happily, he is swamped with work in his business. John is the reason that BASUG has an excellent software library. He toiled for months from the earliest days of BASUG putting all our disks together. The collation of the original library was an enormous task and has allowed us to continue his work, upgrading to DOS 3.3 and enhancing the collection daily.

As John leaves the committee for new challenges, his place at the table has been taken by George Zitterstein. George fills the much needed role of Press Officer for the group. His enthusiasm and professional knowledge will help us to achieve the goals we have set for 1985.

This year we have two major aims within the Group. The first, will be to enhance 'HARDCORE', under the guidance of our new editor, Peter Baron. We intend to re-design the magazine, from the front cover, through the layout, to the back page, to give you a professional addition to your bookshelf. The contents will also be improved by, in the first instance, giving a box of ten disks to the contributor of the best article in each issue, with further cash prizes for the best letter and the best hint, tip or program listing in the same issue. With this in mind we wish to have volunteer SIG writers, with special interests or expertise, to contribute a short SIG article for each issue. This way members, remote from the more active centres of

computing life can participate in topics of interest. If we succeed in achieving half of what we intend for 'HARDCORE' this year we shall be in a position of **PAYING CASH** for articles.

The second major event for 1985 will be the introduction of BASUG-GOLD. This will be a subset of TELECOM GOLD allowing you full use of that service, for about one-fifth of the normal cost. This will be the first time a user group in Europe has given its members the facility to participate in a nation-wide Bulletin-board system. In fairness, it will be much more than that with the ability to 'chat' with other users, in real time, send and receive telex messages, buy and sell goods and much, much more. MOST of you will be able to access this service with a LOCAL telephone call, and it is a Multi-user system, allowing us in the future to perhaps provide on-line games with PEOPLE.

1985 will be a bumper year for BASUG as we will continue to provide the support and encouragement for our members as before, and enhance your computing, whether it is in business or as a hobby.

## Press Officer

George Zitterstein.

Having taken on the responsibility of Press Officer for the Group, I suppose it would be a sensible idea to introduce myself to you, the reader.

I joined the fraternity of computer addicts quite late in my career. My formal education began with the intention of becoming one of the World's great Brain Surgeons...but a short while at University convinced me that, as I couldn't stand the sight of sharp scalpels, let alone the attendant results of their use, perhaps, I was in the wrong line!



# Working the Bulletin Boards

By Tony Game.

Incredibly, I have now been custodian of BABBS 1 for four months and thus can, perhaps, usefully make a few observations that may be of help to users. I intend, in this article, to think more of already existing users rather than the growing army of first timers.

The great snag with Bulletin boards, and this applies to communications in general, is undoubtedly the telephone charges. With the cost of five minutes at cheap rate being 38p, and the shortest time to do anything useful on a board being about 15 minutes, it will cost you getting on towards a pound for each call. It is essential, therefore, to get the best possible value from your call.

I suggest that the first step towards this is to plan your call carefully before hand. Since you will not be able to see more than a small part of what there is in your quarter hour, you must make sure that you know which part of it you want to use, so that you go straight there. If possible also decide whether or not you are going to leave a message anywhere, and if you are, and if your software supports it, write this message or messages beforehand, and have them in disk files ready for the fastest possible insertion. I have been quite astonished at how few people do this. Typing at 5p for 45 seconds is not an efficient way of using bulletin boards! I will deal with the methods of sending pre-written text files in a future article for those unfamiliar with them.

I would strongly suggest that you have a pencil and paper handy before starting. One of the first things that will happen is that you will be given a list of messages that are, hopefully, awaiting you. If you forget their numbers the subsequent search for them will be lengthy and expensive. Even if you have no personal messages you will probably want to scan the open pages, and it will be a great help to jot down interesting message numbers for later reading. Remember that this scan, starting at any chosen message number, is available. Often it will be possible to decide what

you want to read from a scan rather than going through each message in detail. To make this more readily possible, may I make a plea that you ensure your headings are as informative as possible. Not too long, however, as one of the BABBS program's limitations is that these titles have all to be held in memory. If you address your message to ALL then anyone reading it will be asked automatically if they wish to reply.

There are several features of the BABBS boards that have been carefully designed to save you money, and again I am amazed at how little they are used. First of all is the incredibly useful command Ctrl K. This always interrupts anything that is scrolling down the screen, and returns you to the menu you were last at. Thus if you don't want the automatic scan of the latest messages, or if you have specified a read of a number of messages and change your mind while they are being shown, a Ctrl K will stop everything and take you back to the menu. When you have used the board for a while and know the opening credits backwards you can skip these with Ctrl K. Ctrl S works just as it does with standard Apple programming - it pauses temporarily so that you can read the screen after which any key will start up again. Never ever use Ctrl C. It locks up the lot!

The other feature which can save a lot of time, when properly used, is the semi colon. This has been designed so that the program believes it is a return. A warning first, though. Do not use semi-colons in any of your text. Whenever the program sees one it thinks it is a return. The great value of this of course is that you can stack up a number of commands in one entry. Thus First name;Second name;Y;Password can be entered at the prompt for 'What is your First Name?', and will take you straight into the program. This is especially useful and timesaving if your software allows automatic log-on (which most do), and again I am astonished at how seldom it is used. I hope to deal with auto log-on in a later article. In the program proper commands can similarly be stacked

so that for instance from the Main menu M;M;R;1545 will take you automatically to the Messaging menu, then to Mail private, then to Read, then to message number 1545. This can save a surprising amount of time once you have got to know the menus well enough to remember the commands.

Another lovely feature which many people obviously do not understand (I should mention that all these features are fully documented in BULLETINS on the board), is the ability to hit a key and have it obeyed, if it is a valid command, before the menus have finished scrolling. This is a great time saver. In a way it makes the Expert User mode rather obsolete although for those of you who really do know the board thoroughly this mode is still useful. It does not show the menus but just a line of the commands. You must know them however, as there is no way of seeing the menus once Expert mode has been selected.

This mode, as well as many other useful terminal changes, can be chosen from the Utilities menu. Here, lower case can be selected if you have a chip or an 80 column card, and also Nulls can be put into the beginning of lines if you find that you are losing the first one or two characters of each line. If you do change your set up remember to write it to the disk and it will be remembered every time you log on.

Finally, in this article which has been aimed at helping already regular users rather than complete beginners, DO PLEASE remember your password. You will not be allowed on the board at all if you get it wrong. You would be astonished at how often people do get into this quandary. Should it happen to you, forfeit one turn, do not pass go, do not collect £100, and use the pseudonym 'SILLY' for 'What is your first name?', 'BOY' for 'what is your second name?', and DOPE for your password. This will let you on and you can leave me a message of enquiry about your password. Incidentally the private messages are private. Only the addressee and myself are able to see them. I have been asked a couple of times about the contents of private messages in a context where it was really quite reasonable for me to have revealed them, but of course in practice this is something that I can never do.

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Reviewed in Apple User and Hardcore August 1984.

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# Apple > BBC File Transfer

By Andrew Jackson

In recent issues of Hardcore there have been several references to file transfer programs between the Apple II and the BBC microcomputers. The original reference was an article by N. Kelly ("The Apple speaks to the BBC", Hardcore, October 1983) in which he described a method for transferring text files between the two machines using a serial link. At the time I did not have a BBC so I merely read the article and forgot about it! The next reference to file transfer was a plea by Dr Baron (Letters, Hardcore, June 1984). Dr Baron was attempting to implement N. Kelly's routines without success and wrote to Hardcore for help. I had recently bought a BBC and was contemplating the same sort of file transfer program (all those valuable files in Apple DOS format!). I wrote to Hardcore, as did many others (Letters, Hardcore, August 1984), and rashly offered to write a program.

This article describes the implementation of the file transfer programs which are now up and running. Hopefully the file transfer system will be available through BASUG as Special Release Software soon. The programs are too long to be listed here (there are four programs, all of which are several pages long). A useful reference for much of what I describe is the article on Modem-Xmodem protocols in the July 1984 edition of Personal Computer World (pp 170-171).

I decided that I wanted to send any file back and forth on the serial link - I felt that it would be useful to be able to transfer machine code back and forth since I had a powerful assembler on my Apple. This ruled out an extension of N. Kelly's routines which were only suitable for text. There were points that had to be given consideration when designing the programs: how to synchronise the two machines, error detection, error recovery, and transfer rate. Synchronisation between the two machines is important because otherwise one machine might be sending a file and the other might only start to receive half way through. Error detection and recovery are perhaps the most important

since I actually wanted a copy of the file, not gibberish. Transfer rate is important because many Apple owners have the standard serial card which only works at 300 baud and so I did not want to transfer lots of useless information between the two computers.

## Implementation

In my program files are sent across the serial link in a blocked format, which allows errors to be detected faster than an unblocked format, is less prone to glitches on the serial line, and allows for easier synchronisation between the two machines. The blocks consist of 256 data bytes, which is the length of one sector on Apple and BBC discs. The blocking means that the received file is always a multiple of 256 bytes long; this is not normally a problem since the machines run under different operating systems and a certain amount of post processing is inevitable.

Each block transmitted/received has the following format:

```
<SOH>           Header synchronisation byte
<Block number low> Block n of the file
<Block number high>
<Data 0>
.               256 bytes of data
.
.
<Data 255>
<CRC high> CRC on block number and data
<CRC low>
```

Every block sent across the serial link has the same form, the last being no different to the first. The block number starts at 0 (zero) and is incremented for each 256 bytes read from disc, hence files upto 2<sup>24</sup> bytes long can be sent! A Cyclic Redundancy Check (CRC) is used for checking the integrity of the block rather than a simple checksum because it does detect errors better. The CRC is calculated using the algorithm which the BBC uses for its Tape Filing System (no point in reinventing the wheel!).

The transfer operation is easiest to understand if the transmit and receive programs are considered separately. The receive program is effectively the reverse of the transmit program although there are some tricky points. Both are written in machine code for speed and so that accurate timing loops can be maintained.

The transmitter prompts for the name of the file to be transferred and attempts to open it for reading. If this fails the program aborts with an appropriate message.

The transmitter assumes that the receiver is already listening to it and sends out the first block of the file. It then waits for some form of acknowledgement from the receive program. There are four possible types of acknowledgement: accepted, not accepted, invalid\_response, and no\_response.

If the transmitter receives an 'accepted' byte from the receiver the block was received correctly and the next block (if any) may be sent. All the next three response types are errors and, if received cause the transmitter to send the same block again, up to ten times before giving up. If 'not\_accepted' was received the receiver found some form of error in the data block, the error may be due to a byte being missed or a corrupted data byte in the block.

'Invalid\_response' occurs when the byte received does not match either of the two previous cases. 'No response' occurs if no byte was received after waiting for 10 seconds.

If the end of file has not been reached the next block is read from disc, the block number incremented, and the block send process repeats. If the last block of the file has just been read the transmitter sends out an EOT byte which indicates that the last block was transmitted. The transmitter waits for an acknowledgement of this EOT byte. In a similar way to block send the transmitter attempts to send EOT upto 10 times before giving up and reporting an error.

The operation of the receiver can be thought of as the reverse operation to that of the transmitter though with a few added precautions.

Having opened a file for writing, the receiver enters a loop in which it is looking for either a SOH, indicating start of a block, or an EOT which indicates that the last block of the file has been received. This means that null length files may be received (for whatever purpose!).

If there was no transmitter on the serial link then it is possible that the receiver could hang indefinitely waiting for a byte to be received from the serial link. This is prevented by allowing the receive character routine to wait only a limited amount of time before returning. When the receiver is looking for a SOH or an EOT it waits upto 10 seconds/try before quitting, however, when it is reading in a data block it switches to a timeout period of second. One second is adequate because once receiving a block the two machines should be in synchronisation.

#### Comments

The method of transfer seems quite reliable in the tests that I have given it and I have yet to get a fatal transmission error (except deliberately). I have even managed to fool an ordinary Apple Serial Card into running at 4800 baud (from software) so I don't have to wait long for the files to transfer.

The programs have allowed me to transfer a whole collection of files which I had accumulated on my Apple to the BBC. Transferring these files has saved me an enormous amount of time retyping programs and data, and I now wonder how I did without them! The use of the programs is not restricted to Apple<->BBC transfers (because of the transfer format): BBC<->BBC, and Apple<->Apple transfers are possible. I have not had a chance to try them out with a modem but there is why they should not work (Noisy BT lines permitting!).

I am grateful to Peter Baron for 'beta-testing' the programs for me and for his comments on them.

ED. Until Special Release can evaluate the programs, Andy Jackson will answer queries about the software sent c/o Hardcore.

# **\*\*JAZZ\*\***

## **Provides Powerful Tools**

**by Ron Anastasia**

(This article first appeared in Club Mac News Dec 1984 \*)

If the Mac is Apple's sling against the corporate invincibility of IBM, then Jazz may just be the smooth stone to strike the telling blow in the Goliath's most vulnerable spot - the arcane complexity of IBM-PC/MS-DOS software.

Jazz is Lotus Development Corporation's new integrated software package scheduled for release in late March, 1985. (It was shown at the Which Computer Show in Birmingham in January.)

Other than demos given to the press and viewers at Apple's booth, Lotus kept Jazz low-keyed at Comdex, the American National computer vendor convention held at Las Vegas last November. Fortunately, Club Mac was able to secure a more extensive look, when Lotus product marketing manager Eric Bedell gave a one hour preview of this remarkable new software package to a group of Club Mac staff.

### Jazz is five packages in one.

At first glance, Jazz seems to be yet another entry into the PC world's integrated software sweepstakes. Like Lotus' Symphony and Ashton Tate's Framework, it includes five fully integrated modules: word processor, spreadsheet, database, business graphics and communications. Multiple windowing shows several functions at the same time, and sharing information among the modes is fast and simple.

The release version of Jazz will include utilities to convert 1-2-3, Symphony, and Multiplan files from other computers to the Macintosh.

### Not like current programs.

The problem with integrated packages written for the IBM-PC and its clones is their complexity. They take a long time

to learn and they are difficult to use in their fully integrated modes. Symphony's context - dependent command structure has by now become notorious, and Framework's outline metaphor forces many users into a contrived mode of working. Although both these packages can be powerful tools for the so-called power user, they often induce frustration and anguish for those who simply want to produce a report.

### We are "interrupt - driven"

The breakthrough Lotus has achieved with Jazz is radical ease of use. Not merely a reworked 1-2-3 or Symphony ported over to the Macintosh, Jazz is an entirely new product which the Macintosh team at Lotus (now about 75 members, including programmers, writers, field researchers, package designers etc.) has been working on for more than a year.

Lotus has studied the working patterns of "knowledge workers," which includes most office personnel, and found many report-orientated, "interrupt-driven" tasks; that is, the need to generate memos, articles, reports, proposals etc., is constantly interrupted by other tasks which demand our attention.

To address this problem, Lotus designed Jazz with a word processor as its basic function and integrated spreadsheet, graphing, database, and telecommunications modes to share information among documents or send via telephone lines to other computers.

### Hot new idea

Jazz includes an innovative feature called Hotview to deal with interruptions and changes. This allows users to open "dynamic windows" - instant pipelines to other modes of the program.

The example shown by Bedell was a graph created for a letter or report, the graph is automatically generated from information in the Jazz database, and

quickly inserted into the letter. Switching among modes is much faster than switching among applications such as MacWrite to Multiplan. But in addition to this, a significant benefit is the speed and transparency with which a subsequent change to the database then shows up as a redrawn graph in the letter, without any action on the part of the user.

This simple and speedy integration is at the heart of the new Lotus product. It will automatically update information in all affected documents. The combination of Hotview and multiple windows - each time a new one is created, its title shows up in a pull-down menu - enable the user to move quickly and easily among several tasks, following normal working styles.

A nice feature for moving among modes comes when opening the mini-Finder ("Open...") to select a document. First an icon for one of the six modes is selected (forms generation is considered another mode), then the documents which operate within that mode are presented for opening.

Jazz's combination of power and ease of use is built on the strengths of the 512k Macintosh. It takes full advantage of mouse and icon technology, including undo typing capabilities and has well designed graphic scaling and orientation features. Lotus claims that, true to Macintosh ideals, a person familiar with the Mac will be able to immediately start using Jazz.

#### Two serious omissions

Jazz has apparently not sacrificed power to achieve its ease of use. For example, its worksheet mode maintains nearly all the same functionality as that of Symphony, with more power than even the legendary Lotus 1-2-3. Jazz appears to include all 1-2-3's date, time, financial, statistical, mathematical, logical and special functions. As far as I could see, the only important worksheet features omitted from Jazz are macro programming capability and built-in language like 1-2-3's /X commands. Lotus cites the difficulty of creating a "Macish" spatial analog for the syntax of macros and programming as their reason for omission, and maintains these

features are of importance to limited numbers of users. Bedell did not exclude the possibility of future upgrades to include these abilities however. There are two particularly useful Jazz enhancements to 1-2-3's worksheet mode. First Jazz provides the full syntax of each formula from a pull-down menu. For each example, one may select the formula "IF(condition,true,false)" and use the cursor to enter cell locations into the formula. Second, Jazz displays range names for selected cells in the control panel beside the cell location, a marked benefit over 1-2-3's simple listing of range names without location references. These two features alone could save hours of work building complex programs.

#### Keyboard mouse equivalents

Jazz's other modes appear to be similarly powerful. Its full function word processor has search and replace forward and backward, mail merging from database information, and integrated communications to allow simple use of data received. Jazz provides keyboard equivalents for commonly used mouse functions, so a speed typist's hands need not leave the keyboard. Although cursor control, as in Microsoft's Word, is not currently implemented.

#### A glance at the rest

- The Jazz database mode provides easy data entry, editing, and query, with fast sorting on up to three fields and mixing of ascending and descending sorts. It works with the word processing mode for mail merging and labels, and with communications for data capture and analysis. It can validate data entry and allows wildcard parameters, compound search criteria, multiple databases, time and date formats, and statistical functions.

- A forms generator creates custom data entry, query, sort, and output report forms.

- Jazz's graphics mode includes the six major graph types: pie charts and line, scatter, bar, area, and percent graphs. Seamless integration allows fast graphing of data from worksheet, database, or communications modes and merging within single or multiple documents. You can display multiple graphs on-screen

simultaneously and control origins, titles, fill patterns, axis labels, legends, scale dimensions, page size and graph size.

- The communications mode provides for full-featured asynchronous DEC VT-52 and VT-100, plus TTY terminal emulations. It can communicate data directly between documents and will convert transferred 1-2-3, Symphony, and SYLK files for use with Jazz. On-screen controls let you suspend communications for data analysis. The demo baud rate menu went up to 56,700 baud. Asked if that meant Jazz would support AT&T's new ultra high speed telecommunications convention, which would be widely available next year, Bedell replied, "We plan to support all standard communication conventions. Beyond that, I am afraid we can't comment."

When challenged that Apple will never break IBM's grip on the Fortune 500, Apple founder Steve Jobs has been countering, "Apple's target market is the Fortune five million." Nevertheless, if Jazz still looks as good in March as it did during the preview, it could be the program to finally award corporate legitimacy on Apple Computer.

\* Club Mac is an American club, needless to say, devoted to the Macintosh. They publish a magazine every month and run a Bulletin Board (Timeshared on a Mainframe from what we gather) Membership is \$35.00 in the US of A, \$60.00 abroad but this does include airmail of the Magazine. The new member disk contains 3 comms programs (MacTep is one). Details from Club Mac, 735 Walnut, Boulder CO 80302 .

★★

### The following is a list of System Software for the Macintosh:-

This list was produced by Apple Computer Inc. (USA) who make no warranties for the products listed other than their own. Its said to be accurate as of November 5, 1984.

Company	Product	Ship. Date	Phone
Absoft	MacFortran™	November	313-549-7111
Apple Computer	Assembler/Debugger	December	408-996-1010
	Macintosh Pascal	Now	
	Macintosh Basic	December	
Borland International	TurboPascal™	Spring '85	408-438-8400
Consulaire Corporation	C Compiler	Now	415-851-3849
Creative Solutions	MacForth™	Now	301-984-0262
Expertelligence	ExperLogo™	November	805-969-7874
	ExperLisp™	January '85	
Hippopotamus	Hippo C™	Now	408-730-2601
IQ Software	CP/M	Now	817-589-2000
Kriya Systems	Neon™ (Forth/Smalltalk)	1st Q '85	312-822-0624
Mainstay	MacASM™ (Assembler)	Now	818-991-6540
Manx Software Systems	Aztec C 68K™	Now	201-780-4004
Mark Williams Company	C Compiler	1st Q '85	312-472-6659
Megamax, Inc.	C Compiler	Now	214-987-4931
Micro Focus, Inc.	Cobol	1st Q '85	415-856-4161
Microsoft	Basic 2.0	December	206-828-8080
Modula Corporation	Modula-2	Now	800-545-4842
Pterodactyl	Basic Compiler	Now	415-485-0714
Softech Microsystems	P-System	Now	619-451-1230
	Pascal	Now	
	Fortran	Now	
	Assembler	Now	
Softworks, Limited	C Compiler	Now	312-975-4030
True Basic, Inc.	True Basic™	April '85	603-643-3882
Volition, Inc.	Modula-2	November	619-270-6800

## SIG Mac Notes by Peter Trinder

We intend to have a regular column of notes in every issue, so if you have anything of interest please let us have it so that you can share your discovery with others.

Multiplan Users may have been initially frustrated because all the disks that I have seen have been supplied with U.S Keyboard System files, and because the disks have a warranty sticker over the sliding metal cover of the disk it is not possible to alter the disk without breaking the seal, and dealers are understandably reluctant to do this. The easiest way to alter the Multiplan disk is to startup with your System Disk then, assuming a single drive, eject it and insert the Multiplan disk, find the System File icon then drag the System file icon on the System Disk over to the Multiplan disk and follow the prompts. With two drives just have one disk on each drive and you won't have the disk swapping problem.

However if this is too much for you ask your dealer for the disk to be Localised. A program called the Localiser is now available at dealers and is on MacSIG No.8. This program allows you to customise your System Files to local keyboard, time and date and monetary format. So you can alter most US disks to suit your UK keyboard. You will still have a Trash Can because this is in the Finder not the System file. To have a Wastebasket on your Multiplan disk you should replace the Finder that Microsoft provide with one off your System disk from Apple. This applies equally to other software.

I mentioned that most disks can be altered. One exception is Transylvania. I have had some correspondence with Penguin and they did not appear to cottoned on to the fact that there were two different keyboards for the Mac and were most grateful to have the advice and layouts of the UK keyboard. They sent me a letter last week (20th December) telling me that they have fixed this problem and were sending me an altered disk.

If you want to see more of your Multiplan use a smaller font. By running the Font Mover you can take out the Seattle 10 and 20 fonts and the program will use Geneva 9 (make sure you still have Geneva 18 for Hi-quality printing).

On SIG Mac 8 is a program called MenuEdit which allows you to modify the pulldown menus of any program. I like to be able to insert rulers in my Macwrite from the Keyboard so added ⌘ (Command) R to allow this. I also added ⌘ (Command) Q to Hide/Show Rulers. This program seems practically debugged, which cannot be said for some of the other Utilities around at present.

**MS Basic** - Some of you have told me that you are having trouble running the programs on the club disks. First you must possess Microsoft Basic - Basic is not licensed to distribute it. Secondly the Basic interpreter must be on the disk with the program. Here there is a problem, there is not enough room on the disks as they come, so you will have to move the programs onto another disk. Actually what I said above isn't strictly correct. You can run a program on another disk. For example lets us imagine we have in the internal drive a disk called Basic and in the external drive a disk called MyDISK. On MyDISK is a program called Clock. To RUN Clock you double click on the MS Basic icon, when it has loaded, type RUN MyDISK:CLOCK (Don't forget the Colon). In other words you specify the device name then the program. The Pascal pedigree shows here. If you just want to look at the listing then type LOAD instead of RUN.

If you have been used to Applesoft then MS Basic is a bit picky about spaces. So you have to be careful. I found this a bit of a pain until I got used to it.

I have noticed that one or two folk still have Finder 1.0 on their System Disks, get onto your dealers and get them to give you the free update of the System MacPaint and Macwrite. It was issued in July/August. You should have Finder 1.1g, Macpaint 1.3 and Macwrite 2.20.

Dealers should all have a copy of "**The Macintosh Buyers Guide**" which lists more than 200 products, peripherals and add-ons. It proves that there is no lack of software for the Mac. In fact I know of several good programs that aren't even in it. So I recommend at least a look at this publication.

A new UK program is **MacPlot**. This allows a Serial Plotter to be driven by the Mac. The following Plotters are supported:- Apple, Calcomp 81, HP 7470A, HP 7475A, Graphtec (Watanabe) MP1000-01, Epson HI-80 and the Penman. The program to support Graphtec FP 5301 and Houston Range will be "available soon".

Music Fans look out for **Music Works** from Hayden at about \$79. You can write a four part work with separate Instruments. I have seen a prerelease (0.37 version) which is terrific and understand the final version is even better.

## MacHints

If you are entering Fonts into MacPaint and are annoyed because the fonts you have just entered are changed when you select a different font try pressing Enter key before selecting your new font.

Happy Mousing.....

## 512k Macintosh & RAMDISK

As I write this on the 29th of December 1984, it is almost the end of the Mac's first year. I still await my Ram upgrade kit but have been using a Fat Mac at work. In the US public domain have appeared some excellent Mac programs and one that I think will be of considerable interest to all 512k Mac owners is called RamDisk.

Apparently there are several versions in public domain, and maybe by the time you read this there will be commercial versions available but I hope to have a version on the next SIGMac disk.

My RamDisk is un-named so I cannot even thank the author. The kernel is a very small program (about 2k) which resides in the System file as a driver.

The application includes various dialog boxes to allow you to set-up different bootup configurations. Ramdisk automatically partitions the 512k ram into two parts, a work area and a disk area. If the driver is in the System and you have not selected any options the Mac will show a second disk icon on the desktop called "Ramdisk". By moving the application and system folders on to the Ramdisk then everything on the disk is in memory and does not need to access the internal or external drives, except to load or save files to data disks. The improved speed of all applications working in this environment is truly impressive.

The version I am using, the initial setup time is about 40 seconds but the operational ease thereafter is truly worth it. (I am talking here of literally copying Application and system folder to the empty Ramdisk after bootup, but to save this operation everytime it is possible to set it up so that these are loaded on bootup automatically.)

Action	Seconds required	
	512k Mac Single drive	512k Mac w/Ramdisk Single drive
Set-up RamDisk	0	40
Start MacWrite	19	5
Save Write file to disk	15*	7
Start MacPaint	20	7
Select Paint File fm disk	22**	5
Quit to Desktop	16	7

\* Required one disk swap

\*\* Required several disk swaps

There is an additional benefit - you don't really need an external disk drive so this makes the difference in cost between a 128k and 512k Mac much smaller. But note that the maximum size of the RamDisk is 320k and to work most applications need at least 40k to work well.

I think you will find this a really valuable addition to the power already available.

---

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ctrl U is move the cursor left.  
ctrl H is move the cursor right.  
The main use of this table is to simplify the CATALOG, SAVE etc. process. e.g. To lock a program which has already been saved to disk, type :-

esc I                    to CATALOG the disk

Position the cursor at the start of the CATALOG entry for the program using esc I

esc ctrl I            to lock the program.

Being able to make a hard copy of the Escape Tables should enable you to make use of a number of tables designed for specific applications.

The program is as follows :-

```
10 S = ( PEEK (978) - ( PEEK (978) > 127)
  * 256) * 256: S = S + 1024 * 64: S1 = S -
  334: NEU = 1
20 HOME : PRINT CHR$(4)"PR#1": PRINT
  TAB( 2); "PLE ESCAPE TABLE"
30 PRINT : PRINT "START ADDRESS "S1:
  PRINT : PRINT "CONTROL CHARACTERS ARE
  DISPLAYED AS LOWER CASE.": PRINT
40 FOR C = S1 TO S1 + 334
50 C1 = PEEK (C): IF C1 = 0 THEN PRINT
  CHR$(12): PRINT CHR$(4)"PR#0": END
60 IF C1 = 141 THEN PRINT " "; GOTO
  150
70 IF C1 = 13 THEN PRINT : NEU = 1: GOTO
  150
80 IF NEU = 1 THEN 160
90 IF C1 = 155 THEN PRINT "esc"; GOTO
  150
100 IF C1 < 32 THEN C1 = C1 + 96: PRINT
  CHR$(C1): NEU = 1: GOTO 150
110 IF C1 > = 160 THEN C1 = C1 - 128:
  PRINT CHR$(C1); GOTO 150
120 IF C1 > = 128 THEN C1 = C1 - 32:
  PRINT CHR$(C1); GOTO 150
140 PRINT CHR$(C1): NEU = 1
150 NEXT : PRINT : PRINT CHR$(4)"PR#0"
  : END
160 NEU = 0: IF C1 > = 160 THEN PRINT
  CHR$(C1 - 128) TAB( 3) "--> "; GOTO
  150
170 PRINT CHR$(C1 - 32) TAB( 3) "-->
  "; GOTO 150
```

Line 10 calculates the starting point of the Escape Table for either a 32k or 48k system.

Line 20 turns on the printer and prints the heading.

Lines 40 to 150 contain the loop reading and converting each character.

Line 50 reads the character, if the end of the table has been reached it stops.  
Line 60 tests for an embedded return which is displayed as four spaces.  
Line 70 tests for the return at the end of a macro.

Line 80 if NEU = 1 it is the first character of a new macro.

Line 90 tests for the code for the escape key.

Line 100 tests for control codes and prints them as lower case.

Line 110 tests for upper case and prints the character.

Line 120 tests for lower case and converts to upper case for printing.

Line 140 prints the last character in the macro if it is not return.

As with many of the programs that have appeared in Hardcore we hope that this one will stimulate others into seeking ways to improve it and to provide other utilities along the same lines.

[Program Line Editor (PLE) is produced by Synergistic Software and GPLE is a Beagle Bros., product. Both available from Apple dealers.]

---

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# Beginners' Pages

By John Sharp.

In the past, a number of beginners have written in, requesting help with binary files, so this month let us begin with a look at what possible files you might have on a disk. If you catalog a disk you will get something like this:-

```
A    002 HELLO
I    020 DRAGON MAZE
* A   004 PROGRAM 1
* B   002 FILE 1
T    003 TEXT FILE
* R   005 ANOTHER FILE
```

You may not get all these on one disk, and indeed you may not even have seen a T or R or even B on your disks. Leaving aside the first column of A,I,R,T,B for the moment, what does the rest mean. Well the \* tells you if a file is locked. If it is locked, you cannot write to the disk with the same program name. That is you cannot wipe out your program on the disk by overwriting it. The number is the number of sectors the program takes up on the disk. As a rough guide each sector is 0.25K. The name to the right is just that, the name of the file. I say file because it is that rather than a program. It is only when entered correctly into the Apple that it becomes a program, if it indeed is. A file with a T in the first column, is not a program. It might be a TEXT file to EXEC or it might be as the prefix suggests a TEXT file. A TEXT FILE is a bunch of data ready to be read into a program, e.g. a set of records, such as a set of names and addresses. If you want to see what is in a TEXT file then type:-

```
MON C,I,O <RETURN>
EXEC XXXXXXXX <RETURN>
```

where XXXXXXXX is the name of the TEXT FILE you want to look at. As each bit of data is printed, since you are doing the equivalent of typing in directly from the keyboard and pressing return, you will get SYNTAX ERROR, just as you would if you typed a command the APPLE does not understand. You can slow down the screen printing by using CTRL-S. It tends to be a little noisy because of all the beeps and syntax errors, but can be a very useful tool. You could use the READ TEXT program on the master disk.

The A and I program file names are fairly straightforward. They correspond to APPLESOFT and INTEGER program files respectively. Unless you are only running disks that boot and take over the machine, you will be familiar with both of them.

The problem arises, however, with B (and R) files. B stands for BINARY FILES. R stands for RELOCATABLE FILES which are a special type of Binary file. You will see some on the DOS 3.3 TOOLKIT disk. They are produced from the APPLE ASSEMBLER on this same disk. So apart from a slight difference, they are basically the same type of file, a saving of a batch of machine code to disk. This can have various functions once it is in memory and this causes the problems for beginners. The first type of file it can be is a program, written in machine code to make it run faster. A program example is a FID, MUFFIN or MASTER CREATE (on DOS 3.3 MASTER), and UPDATE 3.2.1 (on the DOS 3.2 MASTER). In order to get these to run as programs, simply BRUN FID or whatever the program name is.

Before going further, the number 034 or whatever is the number of sectors the file takes up on the disk. It only helps you (and the DOS) to keep track of how much of the disk you are using. This is dealt with in the DOS manual so I will not go into it here. For those members with tape only it will help to explain what these numbers mean in the software library lists. As a rough guide, four sectors equals 1K of program.

The next type of file is a Hi-Res Picture that has been saved. The length of memory taken up by a Hi-Res Picture is 34 sectors; so if you see :- B \* 034 BASUG LOGO on a disk catalog, you can be fairly confident that it is a picture. There may be other binary files coincidentally 34 sectors long which are not pictures, but the name usually tells you they are not. Alternatively, there are now ways of compressing pictures, so a picture can be less than 34 sectors. You then need a special program to put them back on the Hi-Res pages correctly. If you try to BRUN a Hi-Res picture, anything could happen. Normally you will just halt in Monitor. Try a few and see. You will not do the Apple any harm, just confuse it. The third type of binary file is a set of

data used in a program. It is a little bit like a text file except that it is totally machine code and wouldn't mean anything except to the program that uses it. The best example is a shape table which is a set of points and directions. If looked at other than a shape table by the program you are using, it is totally meaningless. A good programmer will put some indication such as MARTIANS.OBJ or MARTIAN.SHAPE to let you know it is used in another program. The DOS 3.3 TOOLKIT fonts for example are labelled BYTE.SET, ROMAN.SET etc, to make this clear. It is as important as putting REM statements in if you wish to let others know what is going on. On some of the software library disks there are binary programs with just a single letter or a pair of letters; these are fairly obviously used by another program, and the author has made them too short to make you think to run them; the name just doesn't mean anything.

Another type of set of machine code might be data as for example in the copy program on the 3.3 Master disk. The copy programs look like this:-

```
* I 009 COPY
* B 003 COPY.OBJO
* A 009 COPYA
```

There are versions for you to use for copying disks if the BASIC you are using is INTEGER (the first one) or APPLESOFT (the last one, which has an A tagged on the end since two programs cannot have the same name on the same disk otherwise there would be confusion when it came to running them.) In between is a machine code set of data for the other programs (both of them) to use. If you list these programs you will see a line that has a print"BLOAD COPY.OBJO"at line ... Why no D\$=CHR\$(4), well there is an invisible CTRL-D. You could see this if you used something like The APPLESOFT PROGRAMMERS ASSISTANT on the DOS 3.3 TOOLKIT, or the PROGRAM LINE EDITOR.

The most confusing programs on the 3.3 Master it would seem are cataloged as:-

```
* B 050 FPBASIC
* B 050 INTBASIC
```

They are in fact APPLESOFT (or Floating Point BASIC) and INTEGER BASIC, respectively. If you have a language or

RAM card, then these files will be loaded onto the language card and the card locked so that it appears to be an INTEGER CARD or APPLESOFT ROM CARD. If you have an APPLE II PLUS, look at the HELLO program, by just loading it. LINE 210 has "BLOAD INTBASIC,ASD000". Again there is an invisible CTRL-D. The ASD000 means load it at position D000 in memory, which is on the language card.

When a binary file is saved, It is necessary to tell DOS the start and ending locations of the program. This information is saved onto the disk. When you load the program back, it will be loaded into the same position, unless you tell it otherwise. The ASD000 in this BLOAD statement tells it not to load it where it was saved from. This is in fact in the middle of memory and it will load there if you just BLOAD INTBASIC. If you try to BRUN INTBASIC, then since it is not written to run in this location, but on the language card, it will cause you to think your machine has developed a fault.

If there are any more problems, please write in and we will see what help we can give.

## Tip

### FAST EXPLOSIONS.

By R. C. Lowe.

As a fast and easy 'explosion' effect for the Apple IIs, to be included when your starship explodes, the wumpus gets you, the elf casts a spell on you, or in line with Bob Raike's "Why User Friendly ?" (Hardcore, October '84, p9, col 1) to go with the sound of a raspberry and the words:-

"You've had it human, I just reformatted the data disk !"

or simply as a warning when the nuclear reactor you are simulating (at least you hope that is is a simulation) starts to meltdown.

Try rapidly switching back and forth from the screen you are using now to the second GR screen while (optionally) buzzing the speaker, for example:-

```
10 HOME
20 PRINT "ONE":PRINT
30 FOR I = 1 TO 300:NEXT I
40 PRINT "TWO":PRINT
50 FOR I = 1 TO 400:NEXT I
60 PRINT "THREE":PRINT
70 FOR I = 1 TO 500:NEXT I
80 PRINT "BANG !!"
90 FOR I = 1 TO 5
100 POKE -16299,0
110 POKE -16304,0
120 FOR J = 1 TO 4:X = PEEK
(-16336):NEXT J
130 POKE -16300,0
140 POKE -16303,0
150 FOR J = 1 TO 4:X = PEEK
(-16336):NEXT J
160 NEXT I
```

Why spend time filling the screen with eye-catching junk when there is already such a screen ready made? If your program clears the second GR screen, then it is your own fault for writing weird programs.

If you can't remember the location for the proper softswitch - quote Einstein, "Never remember anything you can look up in a book", and reach for the BASIC Programming Reference Manual, Appendix J.

## Local Groups

### Essex Group.

Meets on the first Wednesday of the month at the Top Hotel, Epping and the third Wednesday of the month at Havering College of Technology, Hornchurch.

### Kent Group.

Is peripatetic. Check with Jim Panks ((11333 379511)) or Dougal Hendry ((11333 379511)).

### Croydon Group.

Check with Paul Vernon ((111 7777 396780)).

### Harrogate Local Group.

A new Harrogate Apple Users Group has just been formed. Meetings: 7.30 pm on the third Wednesday in each month. Place: The New Inn, Burnt Yates, Nr Harrogate. Contact: Peter Sutton, Harrogate ((114239) 88874223).

### Hants and Berks Group.

The Macintosh will be present at the extraordinary meeting to be held on April 9th. Further details can be obtained from Fran.

Normally, the group meets every second Monday in the month, from 7.30 to 9 pm., currently in the F.U.R.S. Building of Reading University. Note that the doors are locked, for security reasons, so any one arriving after 7.45 is likely to be locked out.

The Group is looking for a new meetings venue, which could be a pub, so keep an eye on Update for info. February meetings will definitely be in the University, but those in March might be somewhere else, perhaps Emmer Green on the northern edge of Caversham.

We need people willing to chat to the rest of us about some aspect of computing (not necessarily Apple orientated). To do this, you don't need to be an expert, but it is important to have some idea of the interests and general level of expertise of the members. So members, please offer suggestions for speakers and for subjects.

Bob Mould organises meetings at the moment, but won't have time during the Spring and early summer because he is moving house. Therefore, a volunteer to do this work, for a few months only, is needed.

All suggestions, please, to Fran at P.O. Box 174, Walsingham ((113444) 48357139). They will be sent on to Bob, but don't fret if there isn't an instant answer.

### London Group.

The London Group is still going strong and meets in Room 97, County Hall, GLC, south side of Westminster Bridge. Car parking is available. Forthcoming

attractions include a Music talk by Roger Laming and meetings on spreadsheets, education software, wordprocessors and graphics. The contact 'phone number is 0444 444444 (evenings). See 'Diary' for dates.

### S.I.G.s

#### New Graphics and Simulation SIG.

For users of PASCAL and FORTRAN. Please contact Roger Moore on 0444 444444.

#### Radio Amateurs SIG.

George Zitterstein invites radio amateurs, licensed or otherwise, to get in touch by letter, telephone or via the ether (call sign G8ITS, formerly G3KAT). His address is 208, Bunyan Court, Barbican, London EC2Y 8DH and the phone number is 01 638 5452.

Items for inclusion here should be sent either to Fran or to Peter Baron. If you are one person SIG, let us hear from you.

## **Courses**

By Richard Beck.

### Apple Courses for 1985

The BASUG committee plans to provide a programme of courses for 1985, and I am currently deciding which items to include in that programme. Some courses have already been arranged, others are in an embryonic state where a topic has been decided, but further details have yet to be finalised.

As a first step in making a list of possible courses I have found it useful to identify various areas of interest that exist within BASUG. This should cater for a wide range of interests and give most members the chance of attending a useful course. I have listed the categories below, and given some suggestions for possible courses in each category.

### 1. Programmers.

This category caters for those members wishing to acquire new skills in software or hardware; such as how to write in a new language, or how to achieve better graphics. Possible courses are:-

Machine language, Pascal, hardware fault finding.

### 2. Business Computing.

This is not exclusively for those who use business software packages at work, but also for those members who are interested in business packages for personal use; such as databases for club membership, or spreadsheets for accounts. Possible courses are:-

Databases, spreadsheets, use of integrated business packages.

### 3. Education.

The most obvious courses in this area would be those in the use of Logo. I believe that other useful schemes could be run, but I need more information in this area.

### 4. Communication.

Until recently this category would have been a small corner of Category 1, but now many members have their main interest in this area. Initially, the need is for practical, introductory courses; however there will be a need in the future for more advanced specialised courses. Possible subjects are:-

Introduction to Communication, Software for Communication, Accessing large Information Databases.

### 5. Macintosh.

I have no experience of this area at the moment, but I believe that a course on writing software to run on the Macintosh would be useful at a later date.

### Courses Now.

With the above general thoughts in mind, the following 5 courses have been arranged and full information may be obtained from the BASUG office, please

write or phone giving name, address and membership number. An application form will then be sent.

Course 85A:- Advanced Machine Code.  
Date:- 9th and 16th March.  
Venue:- Watford.  
Cost:- £45.

This 2 day course is a follow-up to our highly successful introductory course. Besides learning more advanced techniques, we will be tackling a small software project, the aim being to produce some useful software. The course is suitable for all those who have written some assembly language code and understand the principles of machine code.

Course 85B:- Introduction to Pascal.  
Date :- 27th April.  
Venue:- Watford.  
Cost:- £25.

This 1 day introduction to the elegant and widely used Pascal language will take beginners to the stage where they can use the Apple Pascal language system to write and debug programs. It is likely that this course will be followed by one which is more advanced, later in the year.

Course 85C:- Introduction to Assembly language.  
Date:- 25th May.  
Venue:- Watford.  
Cost:- £25.

This is a repeat of the course held in October and reported in December Hardcore. It enables the beginner to get started quickly in writing machine code programs.

Course 85D:- Beginners Visicalc.  
Date:- 6th April.  
Venue:- Bracknell.  
Cost:- £30.

This course has been run several times and is highly popular. Those attending quickly achieve a useful knowledge of Visicalc. An advanced course will follow a few weeks later.

Course 85E:- Advanced Visicalc.  
Date:- 4th May.  
Venue:- Bracknell.  
Cost:- £30.

For those already familiar with Visicalc, this course allows you to widen your horizons and tackle more complex applications.

As mentioned above, these courses have been arranged, so start booking now. Numbers are limited due to the large practical content of each course.

### Future Courses

The following courses have been proposed but not yet finalised. Further details will be announced later. However, if you are interested, then phone BASUG office, or myself and details will be sent as soon as they are available.

85F:- Introduction to Dbase II.  
85G:- Introduction to Multiplan.  
85H:- Introduction to Logo.  
85J:- 68000 Assembly Language.  
85K:- Communication Software.  
85L:- Introduction to  
Communications/Workshop.

### Further Ideas on Courses

I would like to know if there are any courses that are not covered here, that members would like; so please contact me if you have any ideas, particularly if you have discussed them with other members.

I would also like to know of any members who would be willing to lecture on specific courses, especially the business course. Suitable remuneration is paid for this work.

I may be contacted after 6.30pm on the following number: (01224) 774434. Please contact me if you have any queries or if you have any suggestions for courses.

## Tip

By George Zitterstein.

If your daisywheel printer runs out of ribbon, and you haven't an immediate replacement, try using a sheet of carbon paper. This works on my Triumph-Addler 7020.



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# Book Reviews

Title: The Secret of Arendarvon Castle, pbk., 110p.

Authors: Hal Renko and Sam Edwards

Publisher: Addison-Wesley

Price: £5.95

By Jean Baron

If you are persistent, a lover of adventure and have plenty of time to spare, then Arendarvon Castle is a must. It is intriguing from the word 'go' because the format is unusual. The book presents you, the adventurer, with a series of notes, clippings from newspapers and extracts from the castle guide book collected by a journalist who has mysteriously disappeared. Your task is to study all this information in order to become familiar with the castle and its layout. You may even pick up a few hidden clues! Now you are almost ready to go forth and unravel the secret of Arendarvon Castle.

However, you must first key in the adventure program which is printed at the back of the book. It is a long program so large pieces have been placed in encoded data lines to make it fit the computer's memory. In order to take the strain out of error-correcting the program contains a special error-detecting section. The authors advise that the game should be keyed in in daily chunks, each taking about 1.5 hours to complete. For the enthusiast they explain what each chunk is about and how to save it. Having patiently tapped away at your keyboard from Monday to Saturday, Sunday is the 'big' day - a short BASIC program completes the game and now you really are ready to play.

There are 22 commands at your fingertips enabling you to move from place to place in the castle, pausing to look around and examine objects as you come across them. There are people to meet, secret passages to be explored and spells to be collected. A good tip suggested by the authors is to elaborate on the simple map provided so that as the game unfolds you may detect hidden passages and rooms. Various fates await you and if you are both lucky and patient there are surprises in store. The commands have

been chosen with care - 22 plus USE and four pseudo-commands. Once you have tried these, without success, then obviously what you want cannot be done. This saves on memory but does not limit the flexibility of play. The computer responds to your commands by giving you the latest situation, such as where you are. If you use the command LOOK then the response describes the exact location and its contents. In addition you can ask for your SCORE, during the game, which is based on how many rooms you have visited and how many important items you have collected. The maximum is 240. Any serious adventurer who has had to switch off the computer before the end of a game will value the SAVE feature, which enables you to save the situation as it stands, ready to LOAD when you wish to continue again. These last three commands are examples of pseudo-commands which do not affect the state of play.

The main drawback to Arendarvon Castle is the lack of graphics (limitations imposed, to some extent by the computer itself), such as those used in 'Lords of Midnight' on the Spectrum with the aid of landscape programming techniques. However, it does allow the imagination to run riot and is obviously instructional as well as being entertaining. By the way, if you cannot stand the thought of seven days of sitting at the keyboard then help is at hand. The software is available on the magnetic medium at booksellers or direct from the publishers - as an optional extra, of course!

Review: Handbook of Applesoft BASIC for the Apple II and IIC

Authors: Roy Earl Myers and David I. Schneider

Publisher: Brady Communications Company, Inc. A Prentice-Hall Company, Bowie, Maryland, MD 20715, USA.

UK Distribution: Prentice-Hall International Inc., London.

Price: £16.45

By George Zitterstein.

If only I had received this book when I first started banging away at micro-computer keyboards, I might have been considerably farther along the road to programming proficiency by now.

It is all very well learning the routines and techniques but it is a different matter assimilating and memorizing all the commands, expressions, codes, reserved words and so on. All the manuals and handbooks I have previously encountered, required considerable page turning, index searching and frustration, when searching for that elusive expression which would enable me to complete that absolutely brilliant all-singing-all-dancing program.

At last, here is an alphabetically sorted handbook of just about every direct and indirect command and statement for Applesoft BASIC and also DOS 3.3. The Handbook of Applesoft BASIC for the Apple II and IIe opens with a short chapter of preliminary information, distinguishing between immediate and deferred execution, explaining multi-statement lines, numeric and string constants and variables and other fundamentals. Thereafter, the commands and functions are given, effectively, a chapter each. Finally, there is a comprehensive section of appendices.

Perhaps the Preface sums up much of what I would like to say about the book. "Books on BASIC are primarily of two types: reference manuals that provide a formal description of each BASIC statement and textbooks intended to be read from beginning to end. This book combines features of both."

The treatment of the material is both concise and easy to read. There are examples demonstrating each expression, making the text simple to follow, without giving any impression that the authors are treating the reader as a complete tyro. Indeed, to make use of the Handbook, it is essential to have a grasp of the basics (no pun intended) of putting together a workable program. However, thoroughly working one's way through the 318 pages is an almost guaranteed way of discovering a more sophisticated and often shorter method for achieving an intended result.

For the experienced programmer, it may seem obvious that such expressions as SPEED and WAIT can be employed as "delaying tactics"...but the less experienced, not having noticed these commands buried amid the jargon of more

conventional books, would still be relying on loops. Certainly that would be the case for anyone depending on knowledge gained in writing programs for machines other than the Apples. That is merely one example showing, as much as anything, the advantage of the lay-out of the Handbook, which encourages pure browsing. The expressions are clearly displayed at the top of each page, making an index superfluous.

There are, in all, 118 commands and functions listed and explained, from ABS to XDRAW, from the familiar IF and PRINT to the less used &, FP and SHLOAD. All are very comprehensively discussed, without any condescension but at the same time, without any implication of mystique or complication.

On top of all that, the ten appendices cover, amongst other things, the ASCII values, binary and hexadecimal representation of numbers, reserved words and PEEK, POKE and CALL locations.

It hardly needs to be said that, for anyone wanting a handbook for quick reference for the right expression or command, for the newcomer to programming and for the programmer who gets tired of thumbing backwards and forwards through the conventional manuals, this is a boon. I for one, shall probably have to get a new copy eventually, because I am likely to wear it out through constant use! Certainly this is the best buy I have come across for MY modest programming reference use.

Title: Sound and Graphics, pbk.  
Authors: Jerry Abad and Valerie Abad  
Publishers: Datamost  
Price: £9.65

By Danielle R. Bernstein

When I was first sent this book to review, I thought that what the Apple world did not need was another book on Basic. But then I read it, tried some of the programs and had my eleven year old run them and had second thoughts about my initial feelings. According to the preface, the authors run a computer camp in the United States and developed this book because they felt that there was no elementary material on graphics and sound for children.

The authors assume that the reader knows elementary Basic and quickly zoom through that in the first chapter. Instead the book concentrates on graphics and sound, starting with low-res graphics, proceeding to high-res and even shape tables. Each topic has an explanation, sample programs and challenge problems. I suspect that the questions are called challenge problems and not exercises to set the book off from a school textbook. But there are even answers at the back of the book. The book is full of lovely and funny cartoons about a computer whiz and his cat that often take away from the subject rather than enhance it. As my boy explained it, "you look at the cartoons and think that it is going to be funny, but it is a very serious book".

There is an attempt at demonstrating animation by alternating graphics pages one and two. The programs work all right, but there is too much taken on faith. Although the concept of PEEKs and POKEs is described (in a hurry, in my opinion), no explanation is given of the specific PEEKs and POKEs used. One just has to do it. I believe that in many circumstances you must do something before you can understand it but I do wish that there had been a fuller explanation after the sample programs, if not before.

I found this most annoying in exploring the sound part of the book. I was quite interested in that section since I was not familiar with creating sound in Basic beyond the primitive click. The first program on sound explains that you must POKE certain values to put the speaker routine in memory. But the next program used a completely different set of values to POKE. There was no explanation of the difference and both worked.

There are other annoying points. The authors do not show any program design. The programs spring full-blown on the page without any REM statements. In certain programs, variables are not even initialized, they are just assumed to start out at zero; a very elementary mistake. Several sheets of graph paper are provided at the end, to photocopy. Anyone that can spend £9.65 on the book can afford a packet of graph paper.

But the last chapter on shape tables makes it all worthwhile. It is the best,

step-by-step elementary explanation on how to create and use shapes that I have seen. Although it is presumably aimed at children, many adults will profit from it. I suspect that the market for the book will be for children who will work unaided at home because they have surpassed their parents. If you want to learn techniques in graphics and sounds that you can adapt and are willing to take a lot on faith, this book will fit your needs.

Title: Logo for Apple Computers. A Self-Teaching Guide.

Authors: R. W. Haigh and L. E. Radford.

Publisher: John Wiley and Sons.

Price: £14.95

By Norah Arnold.

Although the authors of this book state that they have assumed no previous computer experience on the part of the reader, I think it is safe to say that they have assumed that readers will be able to progress fairly rapidly in their knowledge of the Logo language. As it is mainly intended for adults working alone with an Apple, I suppose that the speed at which they progress from chapter to chapter is up to them, as long as their understanding does not fall by the wayside.

The introductory chapters of this book are quite well done and give a thorough introduction to the newcomer to Logo. The differences between the Apple II+ keyboard and that of the IIe are covered. It is as well to remember that sometimes it is the small things that cause the most problems to beginners.

The chapter which introduces the use of the editor actually gets quite complicated, mainly because the authors have tried to make their book appeal to as great a number of Apple owners as possible by covering both MIT Logo and Apple Logo in detail. The term 'MIT Logo' refers to the Terrapin and Krell versions of Logo. Each procedure which is given is printed in two forms if necessary, with the Apple Logo version being printed first and any changes for MIT Logo being documented by the side of, or below the original procedure.

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Unlike some books where the authors leave any discussion of error messages right to the very end, Haigh and Radford discuss them in Chapter 3. As Logo error messages are wordy but generally not very informative I was glad to see them being mentioned relatively near the beginning of the book. This chapter also stresses the modular nature of the Logo language. The modular nature of Logo enables the programmer to deal with small tasks which are easily understood; 'mind-sized bites' to use Papert's own words. The way in which a large and complex program may be built from small, relatively simple procedures which may be debugged separately, is an essential part of any book which claims to be a thorough introduction to Logo.

The section on obtaining hardcopy of programs and graphics images is as thorough as one could expect. It would be impossible to cover procedures for all the printers on the market, and the authors have shown clearly how printer commands can be handled from Logo, it is up to the reader to consult his printer manual and build up printing procedures for himself.

Variables, arithmetic operators and communication between procedures are dealt with in Chapter 4. Passing information between procedures and distinguishing between local and global variables can be tricky for newcomers to Logo, but this section is clearly and concisely done and would have been a great help to me when I first started to use Logo. The primitive OUTPUT in particular caused me some problems and I recall that it took me some time to discover some of the rules governing its use. These rules are clearly stated in this book.

Recursive procedures which produce binary trees are a favourite with authors of Logo books, and they are covered in detail by Haigh and Radford. I thought that the diagrams displaying the sequence of actions as each procedural recursion is completed would serve to confuse some people. They were certainly not as clear as the equivalent diagrams in the manual for the Terrapin version of Logo.

The most impressive part of this book is undoubtedly the three chapters covering the word and list-handling capabilities

of Logo. Chapter 6 gives a thorough introduction to the commands involved in handling the basic data objects of Logo. Chapter 7 covers mathematical applications for lists and the authors develop a set of procedures that serve as list manipulating tools which could be moved from program to program without modification if required, as they do not produce any side-effects by interfering with variables elsewhere in the program. The concepts involved are explained clearly without the maths becoming complicated. Non-mathematical list applications are covered in Chapter 8 and the authors give a new slant to some of the well known Logo programs which generate random sentences and phrases.

Isaac Newton's laws of motion are demonstrated by use of the turtle in Chapter 9. For those interested in the physics involved, a standard notation is used to describe the properties of the motion, but this does not interfere with ones enjoyment of the programs if getting to grips with Newtonian motion is not your scene.

As a self-teaching guide, I would hesitate to recommend this book to a person who has no previous knowledge of computers whatsoever. Some beginners like to go at a much more leisurely pace than this book takes you and might get disheartened. On the other hand it would be an excellent guide for a person who has done some programming in other languages and wishes to get to grips with Logo.

Title: Apple Logo.

Authors: H. J. Bailey, K. M. Brautigam and T. H. Doran.

Publisher: Brady Communications Co. Inc., A Prentice-Hall Company.

Price: £14.50.

By Norah Arnold.

The authors of this book work in education in the United States of America. The text represents the essence of their joint experience in using Logo with both adults and children. They appear to believe in the philosophy of education advocated by Seymour Papert, the originator of Logo, and see the Logo

language as providing an environment where the computer releases the creativity of the child and becomes a tool to facilitate learning. In view of this the authors have chosen to write solely about turtle-graphics and have ignored arithmetic operations and the list-processing capabilities of Logo.

As one might expect, the authors have a very sound approach to the learning situation and I believe that the majority of people who set out to teach themselves turtle-graphics, having no previous experience, could work their way successfully through this book. Each new concept introduced is approached in a similar fashion by means of Turtle Trials, Talk, Truth, Tester and Teaser sections. The 'trials' section always presents 'hands-on' activities, requiring the reader to type in procedures, review the result on the screen, make small alterations to the procedure, review the result, etc. The 'talk' section provides narrative reinforcement of the concepts presented in the 'trials' section, pinpointing common errors associated with the new concept, and underlining the most important teaching points.

The 'truth' section often gives a procedure which demonstrates the correct application of the new concepts or commands. The reader is often asked to predict the result which will be drawn on the screen, something which I have often asked children learning Logo to do. As one might expect, in the 'tester' section the reader is asked to use the new skills he has learnt by writing a small procedure to achieve a given objective.

Extended activities are suggested in the 'teaser' section, usually taking the form of additional refinements to procedures already given, eg. adding colour or a title to a drawing.

If I was a parent starting a youngster off using turtle-graphics, I would be happy to use this book as a springboard. There are little 'turtle' illustrations scattered throughout the text and plenty of drawings and pictures of the screen, but these have not been overdone as they have in some American books on Logo, where one has to search to find the text. It would be a book for beginning, however, and would soon need to be

supplemented by the use of another, covering the arithmetic operators and list-handling capabilities of Logo. Most able children progress to using the arithmetic operators extremely quickly, but of course this depends entirely on the talents of the individual child. It is not a suitable book for a young child working entirely alone.

Adults new to Logo, who wish to avoid mathematical complications and simply want to get a sound grasp of turtle-graphics, would find this volume an excellent starting point. It would certainly give a good foundation in the use of the Logo editor, in controlling colour, in the use of simple variables and an introduction to the concept of recursion.

The version of Logo covered is Apple Logo, not Terrapin or Krell and the writers state that the procedures will suit a Logo owner using an Apple II+ with 16K RAM expansion, an Apple IIe or a Franklin Ace 1000 computer system. To the best of my knowledge the Apple IIc is not mentioned, but I understand that there should be no special difficulties for IIc owners.

For those who wish to approach Logo through the creative use of turtle-graphics, this book is a reasonably good buy, but don't forget that your fourteen pounds fifty pence is not buying you a complete introduction to Logo. You will need to cover the arithmetic operators and list-processing before you have Logo at your fingertips.

Review: Business Basic for the Apple ///  
Author: Eddie Adamis  
Publishers: John Wiley & Sons Inc.  
UK Price: £14.40

By George Zitterstein.

The Apple /// is hardly the average enthusiast's first choice as a home or hobby micro. It is intended as and is generally bought by and for a business user. Hence, most applications are satisfied by commercial software packages and few users require or wish to have anything to do with programming. It is probably for this reason that there are few books devoted to the writing of BASIC programs for the Apple ///.

In spite of having had little incentive to research other literature on the subject, I am prepared to propose that Eddie Adamis' book "Business BASIC for the Apple ///" must be one of the best. Its publication is also very timely, as it appears that there is to be a resurgence of the Apple /// and a drive to sell it, complete with rodent and associated software, as a major Apple competitor in the business market.

Jean-Louis Gasse, the President of Apple Computer France, in the Foreword, sums up the attributes of both the author and the book in his opening paragraph: "Eddie Adamis has, in my view, fulfilled the dearest wishes of the founders of Apple: to open the world of personal computing to the nonspecialist." ...and I, for one, agree emphatically.

Starting with a background to numbers and their notation, Adamis goes into the fundamentals of variables, essential mathematics for most business applications and the associated functions, then expands into programming techniques and most of the useable facilities and functions which any business programmer, in BASIC, could wish for.

In practice, it goes much further than that. Although I have not tried everything, a few experiments make it apparent that Apple II / IIe users could benefit from this book. I am sure there will be exceptions but the syntax appears to pose few problems, whereas the ideas, concepts and presentation are welcome.

Adamis joined the computing fraternity when well past the first flush of youth...at the age of fifty. Prior to that he was a musician, as a composer, arranger and for fourteen years, he was the French Director of United Artists Music and Records. His artistic inclination and talent become apparent on reading his book. It is extremely readable and well arranged, whilst holding nothing back in relevant, essential technicalities. To use the French vernacular, the author and his approach to the reader is "Sympathique". What more can one say?

The only criticism concerns the printing, where several "literals" have come to light. On page 21, the literal could lead

to some confusion; "A=10" should read "A=0"....Either that or I didn't understand the bit that came before!...and I don't think I'm that thick! On page 71, "arithmetic" comes out as "aithmetic"....but what the hell!...you don't reject a book for such flaws in detail and in any case, surely the reprint will remedy the niggling trifles which detract from a book, which can only be summed up as, excellent value-for-money, especially when taking into account the monstrous prices demanded for computing books these days.

Title: Programming the Apple II & IIe  
Authors: John L. Campbell and Lance Zimmerman  
Publishers: Robert J. Brady Co., Bowie, Maryland, MD 20715, USA. Prentice Hall International Inc., London  
Price: £19.35

By George Zitterstein.

As a journalist, it hurts to say this... If you are a newcomer to Apple and run one of the earlier Apple II variants, then you may as well read on. Otherwise, don't bother.

This is a revised and enlarged edition...and the publishers shouldn't have bothered. Frankly, I didn't think much of it in respect of programming the Apple IIe. In spite of the authors' or publishers' claims, it is out of date or at least, the updating is so poorly executed, that the IIe owner will spend half his/her time in paroxysms of frustration, if not laughter.

Having been revised, I would have thought that glaring errors would have been eradicated. However, on reaching page 9, I found that "The speed at which a computer performs its various functions precludes that the machine be told, in advance, some plan for carrying out the operations it is to perform.". I'm sorry...but this offends both my technical and literary sensitivities!

To be fair, the actual writing is good but rather condescending. The reader is treated, not as merely a newcomer to BASIC and Applesoft, not as the owner of a computer and its attendant handbook but as a complete novice, without any

knowledge, however fundamental, of the arts (or artisan skills) of programming. The main criticism of "Programming the Apple II & IIe" is that it is, arguably although not ostensibly, written for the very young programmer. In that respect, the style and language is too "adult", perhaps too advanced. It would, perhaps, make a good school textbook. Against that however, is the very "American" style. It reminded me very much, of some of the Tandy books, going with the TRS 80 and similar machines, with its, almost, tongue-in-cheek approach.

Nothing is all bad...and it must be admitted that, following the 452 pages of text, there is a very useful "pull-out" section of glazed card. It lists the Apple, DOS and assembler commands, error messages and other quick reference guides, which many a programmer would like to have handy on the desk.

The revision of the original book may well be complete but I, frankly, lost interest so quickly, that I didn't bother to investigate too carefully. What there was, appeared to be sketchy and clumsy. As a result, other than the few potential beneficiaries I have mentioned, few readers would find much to interest them. I say this, especially taking into account what, in my opinion, is the book's price. Even taking inflation and current computer book prices, £19.35 is just too much for the impecunious....it would, after all, buy you a box of disks...or nearly four issues of goodies from the B.A.S.U.G. library !

Title: Science Computer Programs for Kids and other people, pbk., 146p.  
Authors: Speitel, Rook, Pannell, Anguay & Speitel.  
Publisher: Reston (Prentice-Hall)  
Price: £9.65

By Yvette Raikes.

This book is designed to explain scientific concepts to a child by a short description of the theory followed by a program which, when keyed in, should demonstrate the theory. The child is then encouraged to play about with the program to help enhance his knowledge.

Unfortunately the descriptions do not explain the programs. Although they give a very general guideline to the concepts involved, they do not explain any details or give the mathematical formulae they use in the programs. The child is told to "ask your parent or teacher" if it fails to understand. Speaking as a parent, I would feel inadequate (to say the least) if asked to help out. Although some of the ideas are pretty simple and straightforward, many of them would need hours to unscramble and understand. That apart, at least all the programs I tried worked. Nevertheless, I would question whether some of them did demonstrate the points adequately.

The book is reasonably well written, apart from occasional weird americanisms, nicely set out and easy to dip into. It might work well in a school with experts on hand to provide explanations but I wouldn't recommend it for home use.

Title: Computer Art & Graphics.  
Author: Axel Bruck.  
Publishers: Paul Petzold - Element.  
Price: £14.95

By Mike Siggins.

There are at last a number of fine graphics books concentrating on the Apple. This new publication would be a valuable addition to any Apple owners library, if they have any interest in graphics.

The book is based around a dozen colour plates, drawn using plotter output, from the programs, supplied and then hand coloured using technical pens. It avoids the usual pitfall of getting too complex too quickly. The concepts are introduced slowly by using many superb examples, including stunning geometric figures and perspectives.

The programs supplied are bug free as far as I can deduce and the coding is clear and portable, in that the routines could easily be used in other programs if required.

This book is fresh, well written and can easily be built upon. Well worth the asking price.

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# Software      Reviews

Program: Superbase

Authors: S D Tranmer & T H Cranstoun.

Company: Precision Software.

Availability: All Apple Dealers.

Price: £119

Description: A single drive Database Management System for Apple //c and //e computers.

By F. Everett.

It does not seem that long ago when the only database around for the Apple was the Phone List program supplied on the system master disc. These days there are a large number ranging from simple name and address files to full blown relational databases.

Superbase originally appeared for use on the Commodore 64 range of computers and has now become a top selling database for that machine. It is now available for the Apple //c and //e systems where it's designers hope it will continue that success.

The package comes in three parts all of which are kept together very neatly in a hard cover, three ring binder. Part one is an audio training cassette, part two is a 130 page manual and part three consists of two identical, copy protected discs containing all the files that make up the working part of the database.

## The Training Cassette.

Three tutorials that come with the package and of these the first two are presented both on audio cassette and in the written form as part of the manual. They follow each other very closely so that should the buyer be hard of hearing and not be able to use the cassette he or she will not loose out in the learning process.

Tutorial one shows how to create files, design screen formats using three of the eight different types of data field available, the entering of information and how to pick out specified files using selected criteria. If the type of database required is no more than a name and address type file the user never need go any further than this. Tutorial two

goes several steps further introducing some of the other types of data fields such as numeric, result and constant as well as showing the ways in which they can be used.

Overall the cassette is well produced and allows the user to progress at his own pace without missing anything important. The scriptwriter has assumed that nothing is known about the subject but does not dwell on any one thing long enough to make it boring to someone who knows what is being explained. It is also very clear that the company has designs on the American market as well. The address file that the tutorial instructs the user to create is all American right down to Zip codes equivalent of our Postcode. The date entry facility allows for both the U.S. as well as the British versions.

## The Manual.

This is split up into six areas the first of which is a comprehensive contents section. In part two can be found the three tutorials, the first two of which duplicate the audio tape, while the third leads on to more advanced use of Superbase. Tutorial three covers a large number of subjects that range from essential housekeeping to sorting, the format of output commands and using the report generator.

Part three is a more formal reference section which shows what to expect from the menus within Superbase which include the reporting, calc, help and memo options. To some extent it duplicates the tutorials but it is a lot easier to locate a specific piece of information when required in a hurry.

Superbase also has a programming option and part four shows how to use this, plus all the additional BASIC like commands that become available to the user. Anyone who has ever used dBASE II will be familiar with this option although the Superbase version seems easier to learn. Over the last few years a number of software companies have written templates to make dBase II do what the customer wants it to do without the need to know anything about programming. Precision Software have written some of their own for Superbase and sell them under the name of "Stepping Stones" at approximately £10 each.

Part five includes a technical appendix, error message definitions, printer control information and a selected glossary while the final part is a 900 entry index (approximate).

The designers and writers of Superbase very wisely chose not to write their own manual. So many times in the past has a good program been spoiled by bad documentation that has been written by the programmer himself. The manual is well designed, each part is separated by tabbed partitions which makes the finding of a specific piece of information easy. More importantly it is well written and straight forward to follow.

The company also use their own products which is always a good sign. Noted in the front of the manual is the fact that it was created using the Superscript word processing system and checked using Superspell neither of which is available for the Apple range of computers to the best of our knowledge.

### The Program.

As mentioned earlier, Superbase is supplied on two copy protected discs one of which is used only as a backup. Should anything go wrong with one of the discs a replacement is available for £11.50

On starting up the system, Superbase checks to see if there is an 80 column card installed and if so switches it on. After a brief glimpse of a credits page the user is requested to type in the name of the required database. Creating a new database is as easy as typing in whatever name it is to be called and pressing the return key. The same applies to file names. From this point on any number of routes can be taken depending on what is to be done.

Superbase is a menu driven program with two main menus and a number of sub-menus. Any of the selected options can be aborted by pressing the CTRL and Q keys together, which will return the user to main menu one. With a total of 16 options on the main menus, a further 24 on the sub-menus and a number of other commands that can be typed in direct, it would take more space than is available here to list and explain everything that the

program is capable of. Suffice to say that all the usual enter, select, find and report on data facilities are there along with batch, sort, format (a screen) and execute (a program), as well as some others.

The program can be used at a number of levels. From learning to create and use a simple name and address list it takes only a little more understanding to use calculated fields and write your own help screens etc. Incidentally, a calculated field is one that is not entered by the user but is filled in automatically by the program using details from other fields within the record. For instance, if within the record we have fields for quantity, price and totals the program can multiply the quantity by the price and enter the answer into the totals field without any user intervention.

Batch work is also easy to do. Should VAT suddenly drop from 15% to 5% and all (or some) of the prices of the items on the database need changing, all that is needed is for a short, one line instruction to be typed in and Superbase looks through the relevant records within the file, changes them and does any necessary re-calculations.

Most users will not have any need to go beyond using the menus but for anyone who wants to it is possible to write short programs within Superbase to do some very complex operations. It is also possible to use the Apples built in Lo-Res graphics to display data from a file in graphic form. The maximum length of a program is 4Kb.

There are limitations to Superbase, the most annoying of which is that it can be only used on one drive. Files, of which there can be up to 15 in each database, cannot be spread over two or more discs without creating a new database on each disc. This is perhaps where protecting the program works against all parties. Apple drives, being rather limited in their capacity for data storage, are not the ideal vehicle for the large amount of information that can find its way into a database. The ability to put data on to a larger capacity drive or even a hard disc would be useful.

It is curious that a program designed for

the //c and the //e machines only in the Apple range should run under DOS 3.3 rather than ProDOS which, after all, is the operating system supplied with these machines. A little unfortunate also that no use is made of the extra memory found on all //c's and most of the //e systems. Data validation would certainly be a useful feature as would the ability to be able to link with more than one file at a time.

### Conclusions.

For the price this is a very worthwhile buy if you are in the market for a database for home or small business use. It is very easy to make use of within a very short timescale although if the programming facilities are to be used it will take a bit more study. The "Stepping Stones" templates can save the user a lot of work also. Among the titles available are Cashbook, Job Costing and Estimating, Accountants, Time Recording, Estate Agents, Sales Day Book and Club Membership.

All Apple dealers have a copy of this program, the templates mentioned above and also a demonstration program which unfortunately seems to have been written as an after thought as it does not show a lot of the facilities that are available in Superbase.

Our thanks to Precision Software for sending us a copy of the program for review.

Title: The Running Coach  
Publisher: Power Up!  
Price: £59.95+VAT

By Patrick Bermingham

Jogging and Running are amongst the most popular physical recreational activities in Britain today; and I suppose it was only a matter of time before someone wrote a computer program specifically aimed at them.

The Running Coach is a serious, well thought out program that will design a comprehensive running schedule for the user. Its personalised training schedules are based on methods used by the New Zealand coach Arthur Lydiard and

they make a special emphasis on the development of Endurance.

Marathon runner and physician Dr Joan Ulyot wrote the preface to the Manual and she asserts that the techniques involved are physiologically sound.

The program comes on a copy-protected double-sided disk, with a 38-page manual. An additional disk is needed on which to store one's training performance data.

On booting side A of the disk, in drive 1, you are asked to enter today's date and to put a Data Disk in drive 2 (drive 1 if you have only one drive).

You are then asked to press Return to initialise the data disk, and you are prompted to give your Name, Age, Sex, Weight and Resting Pulse. Resting Pulse being your pulse rate when you first wake up in the morning, before you get out of bed.

The Data Disk is then formatted and the screen displays the following caution:

BEFORE STARTING A RUNNING COACH

TRAINING OR RUNNING PROGRAM,

PLEASE SEE YOUR PHYSICIAN

FOR A PHYSICAL EXAMINATION AND ADVICE

With that necessary caution under your belt, you can press Return to display the Main Menu:

1. CONSULT THE COACH
2. UPDATE LOG
3. GENERATE REPORTS
4. NEXT RUNNER
5. EXIT PROGRAM

Option 1, CONSULT THE COACH, is the heart of The Running Coach program. It contains all the training knowledge of The Coach. It is within this function that The Coach sets up and displays your individualised running schedule, taking into account how many days per week you want to run, your sex, age and current fitness level. In

addition, during the course of your training, The Coach takes into account how well you performed your previous workouts, and adjusts your future workouts on a daily basis.

The menu for Consult the Coach gives three options:

1. PRELIMINARY CONDITIONING
2. BASIC RUNNING
3. RACE TRAINING

They represent three separate training programs.

PRELIMINARY CONDITIONING is a preparatory program for the individual who has never run before or does not feel comfortable running at least four miles or running for thirty-five minutes at a time. At the end of the Preliminary Conditioning program you should be able to comfortably run up to 35-minutes at a time and you can then begin a BASIC RUNNING or a RACE TRAINING program.

The Basic Running program is geared for the runner whose primary interests in running are for health, fitness and enjoyment and who is capable of running aerobically (i.e. without exhaustion) for 35-minutes at least three days a week.

Race Training is designed for the runner who wants to train for a race, either competitively or for fun, of a distance between one mile and a marathon. You must be able to train for at least 4 days a week to make use of this program. If you select Preliminary Conditioning, the Menu displayed will give you three options:

1. CONDITIONING INSTRUCTIONS
2. DETERMINE FITNESS LEVEL
3. SEE SCHEDULES

If you are a first time user of the program you should select option 2. This will determine your current fitness level and ask you to input your performance times after two Walk/Jog trials (which are detailed in the manual) and your pulse after the second jog. Your fitness level is then determined.

Pressing Return takes you to the Preliminary Conditioning Menu. Select Conditioning Instructions, to see a page of information on how to condition yourself. Then press Return and select option 3, See Schedules. You can then flip through pages on the screen (and print if desired) detailing your weekly schedules that comprise The Coach's fifteen weeks Preliminary Conditioning Workout program.

To use the Basic Running or Race Training programs, press Esc to get to the Main Menu and select your choice. Both programs require you to enter data of your running history and on that basis weekly workouts are calculated. The Update Log option on the Main Menu is used to enter trials performance figures, used to determine the pace for future workouts.

The Generate Reports option allows you to display or print the information in your Log, in a variety of ways. There is even a Graph option in the Generate Reports section which allows graphs of your progress to be printed to screen. For reasons not given in the Manual these cannot be dumped to screen. The Next Runner option allows more than one person to use the program.

To sum up. The Running Coach is good value for money. I can visualise runner groups, with access to an Apple II, using it to work out their training schedules.

Our thanks to P & P Microdistributors Ltd. for the loan of the review copy of this program.

\*\*\*\*\*

#### MEMBERSHIP LISTS.

We often get requests for a membership lists to be published. Those of you who have been members for a while will know that the decision not to publish names and addresses was taken at a previous AGM and was subsequently endorsed at the next AGM. Further restrictions on personal data which is kept by BASUG will be imposed by the Data Protection Act.

There have also been requests for the telephone numbers of Committee Members to be published. These have already been printed in Update No. 21, which was sent to members.

# GREENGATE

productions



When you buy a Greengate DS:3 you are entering a new world. Not only are you providing yourself with a high quality 4-voice Sound Sampler to match the best around for all-in performance but you are into a new kind of sequencing which is ONLY possible with a full-blown computer system.

The Sampler speaks for itself ... But what Drum Machine or sequencer unit can:

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- ☐ Remember the instrumentation details as well as the sequences?
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We don't know of one. But we DO know that the DS:3 is one of the very best drum sequencers. We have a collectors item 12" record to prove it ... YYY001.

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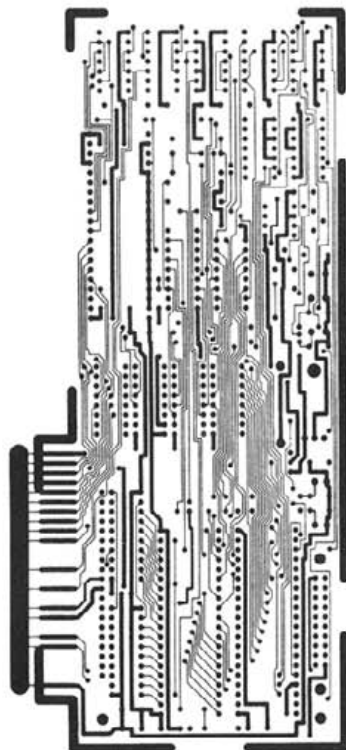
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GREENGATE PRODUCTIONS and "MAINFRAME" announce their Digital Sound Sampling Sequencer, the DS:3. Starting at £250, this APPLE<sup>®</sup>-based 4 Voice polyphonic system brings high-quality digital sampling within reach of every musician and studio.

15kHz bandwidth and two-second-plus sampling periods ensure excellent sound quality. Powerful sequencing software together with 5-octave keyboard control of pitch gives a percussion/drum kit capability limited only by the user's imagination. There are no "PROMS", "Chips" or extras to buy!

## DS:3



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# Epson Pages

## CP/M and The EPSON 8132 Interface Card

By John Sharp.

Many users have the EPSON 8132 or 8132W interface card for use with the printer and the Apple. The card has gone through a number of revisions, but only in the ROM. The initial version marked APLA is so rare as to be nonexistent. The version marked APLB was quite common, until complaints about it not working with VISICALC caused revision APLC. This suffered from the inability to be recognised by PASCAL, and so was soon replaced by APLD. This had a long lifetime, despite not being compatible with the full APPLE CTRL-I conventions. It was ultimately replaced by APLE, which is the current version.

NOTE: These patches only refer to the MICROSOFT CP/M software. I do not have the patches for the MICROPRO SOFTCARD CP/M at present.

The first step is to make a COPY of the CP/M disk. Do this with COPYA. It is much easier, and you will need to be in a DOS 3.3 environment for the next stage. You may not have realised you could do this. In fact it will work with CP/M, PASCAL and even PRODOS disks!

The following table will allow you to make the change faster if are using the Inspector or other disk patch program. It also shows the memory location used when making the alteration using DDT. The values are in hexadecimal.

TABLE 1.

CP/M Version	Memory Location	From	To	Track	Sector	Byte
2.2 44K	AD2F	3E	31	-	-	-
2.2 56K	DD2F	3E	31	2	8	2F
2.23 44K	FE50	5F	52	2	9	50
2.23 60K	FE59	68	5B	2	8	59

All versions have the problem that they are not recognised by the various implementations of CP/M for the APPLE. EPSON in Japan came up with a patch which was printed in the manual, and which a colleague and I revised for CP/M 2.23. This patch had to be made using DDT originally. I phoned through the patch for the August 83 Hardcore, and was pretty sure I gave the disk locations to alter as well. However, if I did, they were not published. Roy Filkins has been faithfully making them every day for the last 18 months and has asked me to provide something permanent. Since he or others might not have a program such as the Inspector to patch the disk directly, I have written an Applesoft program to do it for you. This uses the information in the DOS manual (version 3.2 is still valid!) so I have not explained it.

If you do not have the Inspector or another dispatch utility, type in the following program and save it to a conventional DOS 3.3 disk. You will then have to make changes in the appropriate lines for the version of CP/M you are using.

```

10 T = 2: REM TRACK
20 S = 9: REM SECTOR
30 X = 80: REM OFFSET
40 Y = 82: REM VALUE
100 FOR J = 0 TO 31
110 READ K
120 POKE 768 + J,K
130 NEXT
510 DATA 169,3,160,10,32,217,3,96
520 DATA 0,0,1,96,1,0,0,0
530 DATA 27,3,0,96,0,0,1,0
540 DATA 0,96,1,0,1,239,216,0
550 POKE 782,T

```

```

560 POKE 783,S
570 POKE 790,1: REM READ
580 CALL 768
590 POKE 24576 + X,Y
600 POKE 790,2: REM WRITE
610 CALL 768

```

The values corresponding to the above table which should be used in the program are as follows. All the values are in decimal.

TABLE 2.

CP/M	Version	L 10	L 20	L 30	L 40
2.2	56K	2	11	47	49
2.23	44K	2	9	80	82
2.23	60K	2	8	89	91

NB L = Line number.

Having made the patched disk, boot it and test it as follows:

Press CTRL-P and then use the DIR command to obtain a directory of the disk. This should come out on the printer, provided it is in slot 1 and also on-line. You can switch the printer off using another CTRL-P command.

\*\*\*\*\*

### Epson Code Insertion

By Ray Harris

Having considered the purchase of Fingerprint for my Epson MX-80, and rejected it on grounds of cost, I realised that I could have a fair portion of the same benefits by keeping a set of binary programs which would insert the relevant codes when I needed them. They are all the same, except for the message sent, and run in a space which I seldom use for anything else. The particular example below, which I have named PERFSKIP, sends the code ESC N 2 and sets a skip of two lines over the perforation at the end of each page. (All the other programs of the set have short names like CN for "condensed on".) Because the program recognises 00 as the end of message any code such as "underline on" which would require a 00, must have that byte changed to 80 to have the same effect.

Some users may find it easier to include in a program a line like  
 ?D\$"BRUN UN"  
 than  
 ?CHR\$(27);"-";CHR\$(1);

I certainly find the former easier to remember, though on running it's a bit slower. Of course, when no program is running the binary program may be BRUN at any time.

```

1 *****
2 *          TO SEND EPSON CODES          *
3 *          RAY HARRIS                    *
4 *          16/05/84                      *
5 *****
6
7          ORC $2E0
8          LDX #$00
9 GET      LDA MESS,X
10         BEQ END
11         JSR PRINT
12         INX
13         BPL GET
14         BIT $C1C1
15         BMI PRINT
16         STA $C090
17         END
18 MESS     HEX 1B4E0200 ;ESC-N 2
19         00

```

\*\*\*\*\*

### Screen/Printer Swap

By Ray Harris

Often while the output of a program is directed mostly to a printer, there is a need to interrupt the printer output to put a message on the screen which calls for the operator's attention. It is possible, though clumsy, to do this by turning the printer off with '?CHR\$(4)"PR#0"' and turning it on again when required. Other BASICS accomplish this more fluently by use of 'PRINT' and 'LPRINT'. The following brief and relocatable program has the same effect.

```

1 *****
2 *          SWAP PR                        *
3 *          RAY HARRIS                    *
4 *          *                              *
5 *****
6
7 CONNECT  = $03EA
8 OUTHOOK  = $AA53
9

```

	10	ORG \$0340
0340: 48	11	PHA
0341: AD 53 AA	12	LDA OUTHOOK
0344: 49 F0	13	EOR #\$F0
0346: 85 36	14	STA \$36
0348: AD 54 AA	15	LDA OUTHOOK+1
0348: 49 3C	16	EOR #\$3C
034D: 85 37	17	STA \$37
034F: 20 EA 03	18	JSR CONNECT
0352: 68	19	PLA
0353: 60	20	RTS

At its present address a BASIC program needs a variable SWAP=832 (\$340). Whenever output is to be redirected, a CALL SWAP accomplishes it simply. To test it try this:

```
10 DS = CHR$(4)
20 PRINT DS"BLOAD SWAP PR":SWAP = 832
30 PRINT "THIS MESSAGE IS TO THE
   SCREEN."
40 PRINT DS"PR#1": PRINT CHR$(9)"80N"
50 PRINT "THIS GOES ONLY TO THE PRINTER"
60 CALL SWAP: HOME : VTAB 12: HTAB 10:
   PRINT "TO THE SCREEN AGAIN"
70 CALL SWAP: PRINT "AND BACK TO THE
   PRINTER FOR THE LAST TIME."
80 CALL SWAP: PRINT "WHERE ARE WE NOW?":
   END
```

## DISCOUNTS

The following companies are offering discounts to paid up members who quote their personal membership numbers and pay cash/cheque with order.

1. Elite Software Co. Details below. Contact the company. Their address is given in their advertisements in this issue.

ITEM	R.R.P	DISCOUNTED (INC VAT)	PRICE
Ramview	£69.00		£55.00
Ramview 64 k	£138.00		£110.00
Wildcard	£92.00		£70.00
Wildcard Plus	£136.85		£110.00
S-C Macro Assembler	£79.35		£62.00
Wild-Word	£40.25		£33.00
Appli-Kit	£28.75		£23.00
Edit-[[I]	£28.75		£23.00
Symbol-77	£28.75		£23.00
Password-69	£28.75		£23.00

2. Wolfercrown. Details from the company on 01 629 3603. See also their advertisement in this issue.

Companies prepared to offer discounts to BASUG members, please contact Peter Baron or Fran.

## Readers' Letters

Mattingley,  
Nr Basingstoke, Hants.

For the attention of John Sharp.

Dear Sirs,

Like many others who bought Apple CP/M Version 2.23 to work on an Apple/Epson combination, the printer failed to function. I had to revert to CP/M Version 2.20 until August 83 issue of Hardcore, when you supplied the magic patch with DDT.

Having put that patch in religiously almost once a day for over a year, perhaps you could suggest a permanent patch which would boot with the system.

Yours faithfully,

Roy Filkins.

Garston, Watford.

Dear Peter,

.... With a new chairman and editor, BASUG looks well on the way to continuing anew for 1985. When I think of the struggles we had during the first few years to get help for the smallest of things. We had to spend a lot of time persuading and ringing round when the magazine was due to go out. Volunteers simply wanted to explore the new software and get on with using their Apples.

One thing which hasn't changed is APPLE's attitude. This is something which must rebound on them eventually. They have lost a number of very able people. Many more seem unhappy working for them. The attitude seems to be so arrogant as to expect the world owes them a living and will rush to their door. At some stage they are going to make a big mistake; at

the moment it seems to be a lot of little ones. There are rumours on the US bulletin boards that they may not survive 1985. The Mac is not doing as well as it might appear from the glossy advertisements, and LISA is due to be discontinued. BASUG should try to do more to prod APPLE into action.

I have included the answer to Roy Filkins problem. For those who do not have a disk patch program such as the Inspector, I have written a program to patch the disk. [See elsewhere in this issue].

We are looking at revising the ROM on the card. I do not have full details at present.

[Some other points made by John are:-]

1) HARDCORE is too soft. The impression I get from reviews is that they are always trying not to offend. Although I agree in general with Norah Arnold's review of "The EPSON connection : APPLE", I think it is one of the most appalling books I have ever seen for presenting information. If you are using the APPLE in BASIC, or PASCAL or whatever, you are not using it in every one of them at once. Nothing could be more frustrating than to have to jump from chapter to chapter to get to the information you want because everything about using one command is given in every situation instead of putting all the BASIC, PASCAL etc together. There are other EPSON books in the pipeline, for use in specific situations such as Business and Writing.

2) The AW II and graphics in December 84's Hardcore was interesting. It poses two questions. Is it possible to write APPLEWRITER II files to disk. I do not mean save them, but write them with the formatting, so that the disk file contains the file the printer would see. If you could do this, the file could then be written with control characters which would not be used by the printer, but which could be intercepted for the purpose of changing the output. All that would be required then would be a driver to take the characters from the disk until the control character was met and output them directly to the printer. The control character could then be a delimiter to signal the use of another routine, such as fetching a hires picture

and dumping it. There was such a commercial program available for APPLEWRITER I which was demonstrated at a BASUG meeting by Roland Saam some two years ago. I believe it had the formatting in the program. This was of course easier to do, since the editor and printer were different programs, and on an open disk.

Secondly, I shall be interested to see how Dr Johnston overcomes the CTRL-Q problem with the various cards, which normally causes the current hires screen to be dumped.

All the best

John Sharp

Comments in [...] are those of the editor.

Cheung Chau N.T., Hong Kong.

Dear Editor,

A few questions.

1. Can you accept pieces for Hardcore in Wordstar format ? If not (or even if you can) does anybody out there in Apple Land have a utility to transfer files from CP/M to Apple DOS ?

2. Does anybody know how to add words to SPELSTAR.DCT using only two drives ?

3. Does anyone have anything to say about the Panasonic KX P1091 (A.K.A Super-Five, also comes under the Roland and possibly National brand names) dot-matrix printer and its use with Wordstar.

Just to set the record straight; lots of people seem to think that the only version of Classic Adventure for the Apple II is the Level 9 version, but I have what seems to be the Classic program (I can find my way around with a map of Adventure that a friend sent me, but have yet to reach the end of the game), copyrighted to Rainbow Computing & Robert Scully, 1979.

I quite agree with first point (letter p34, October 84 Hardcore - re DOS difficulties).

Yours faithfully,

Raymond C. Lowe

Ed - Answer to point 1. is yes we can.  
CP/M Muffin will do the job.

Goodrich, Herefordshire

Dear Editor,

Some very interesting programming tricks are contained in the programs supplied on the Apple Master disk. They have completely baffled me, and I wonder if any of your readers can explain how the techniques work.

First: the Renumber program. Load it and list it. You will see that it starts at line 1000. But what there is of this listing won't renumber anything! One clue comes from line 1190 which has a branch in it directing the program to line 220. So, presumably, there are lines up to line number 1000, and they are made invisible somehow. Can someone tell me where line 220 and the others are, and how you make lines 'invisible' in the first place?

Next, try running it, and when that's done try listing it again.

Second: the Applevision program. Load this one and list it. You must actually do this to appreciate the extraordinary and un-BASIC listing that you see. A few hundred HIMEM: statements in a row seem to be about the most normal part of it. Can anyone tell me what has happened? The run the program and after interrupting it, list it again!

I would think that a 'Tricks and Techniques' column to explain features like these would be an interesting addition to Hardcore.

Finally, amongst the myriad books on Apple programming, do you know of any which delve into 'advanced techniques'. For example, can anyone tell me how to Bsave and Bload string arrays from and into the correct part of a running program, in a similar manner to numeric arrays? And how does one delete simple variables in a program? (I mean erase, not set their value to zero.) A one-line statement will delete arrays to permit redimensioning, but I can't figure a similar move for simple variables? Can anyone help?

It's the season for competitions, isn't it?

Yours sincerely,

Dr. Charles Sheppard.

Ed. All questions for the 'Tricks and Techniques' column will be welcome. Andrew Jackson has kindly agreed to write it.

Chertsey, Surrey

Dear Sirs,

Following the letter by M. J. Owner, December '84 Hardcore, regarding the ability to check syntax in Applesoft programs, I would like to draw his attention to the inside back cover, regarding Appli-kit, by Elite Software.

Briefly, the instructions this adds to Applesoft are :-

FREE: indicates how much free space is left in your Apple.

RENUMBER: does what it says, though on longer programs than the one on your systems master can handle.

DUMP: after execution of program, lists all simple variables used.

AUTO: auto line numbering.  
HELP: if a program crashes due to a syntax error, type HELP. This lists the last executing line with the error point highlighted in inverse.

APPEND & MERGE: join Applesoft programs.

FLOW: lists transfers of controls.

LTRACE: a modified TRACE/NOTRACE. Rather than fill the screen with numbers, LTRACE lists only to one side of the screen. May be continuous or stepped (ie 1 line at a time, hit a key to cont.).

RECOVER: attempts to restore a file lost by NEW.

TYPE & NOTYPE: gives open and square bracket, backslash and underline by CTRL-N, O, and P.

I believe that the HELP command would solve at least the SYNTAX problems.

Yours faithfully,

Mark Whelan.

# PRODUCT NEWS

By Peter Baron.

This column will be a short regular feature. It aims to mention hardware and software which is new and interesting. Because so much material comes on to the market we shall be selective and to some extent subjective. Some of the items mentioned will be reviewed later.

The Elite Software Company has recently released Format-80 : Enhanced Version 2.00. This has all the features of the program to date, with the added advantage of an integral spreadsheet facility. Text and calculations may be freely mixed. Text, mailing list data and spreadsheet information are fully integrated and the price of the new product remains the same, £129. It is available as an upgrade to existing users at £25. (Prices ex VAT). See Elite's ads elsewhere for the address.

P & P Micro Distributors have some interesting new pieces of software. Computer Check Up lets you work through the entire Apple computer system at home, so that you can detect any faults at an early stage. Also, it can produce a printed report. - Apple II - £42.95 + VAT. Mockingboard. A stereo sound board for Apple II+, IIe, or IIc with 48K - claimed to be the most advanced stereo sound board available for this family of computers. - £104.00 + VAT.

Apple UK have announced Macterminal, a data communications software package, which allows interaction with mainframes, minicomputers and electronic information services - £99 + VAT. Mac users can also survey the universe of software and hardware with the recently published Macintosh Buyers Guide - £5.95.

U-Microcomputers now offer a new program for perspective drawing (14-2000 PD £30 + VAT) and a U-CCT clock/calendar and timer card (2-1360 £99 + VAT). Both are II+ and IIe compatible.

More information on the items mentioned can be obtained from the companies concerned. The addresses of those who advertise with us are given in the ads.

Hardcore would also like to publish a short 'Personal Opinions' column to allow users to voice criticisms and compliments about software and hardware which they are using. Please send your short comments to the editor. Wherever possible, please be constructive.

## WRITE FOR hardcore

Contributions to HARDCORE are always welcomed. Without them it would not exist. Whether you have a learned article, a 'quick tip', a problem or a solution, let us know.

If you have more than a short letter, it is virtually essential to send it on a disk, with a hard copy if possible. If you must send printed copy, please do not cut it up but fill justify on a 9 cm (3.5 ins) column. We prefer copy on disk, either as a text file or an Applewriter I file. Pascal text files and others such as Wordstar files can be accommodated. We can also read items written on a BBC computer with Wordwise or View. Please use the minimum of embedded printer commands and send them unformatted.

Remember, contributors receive credits for cheap Software Library or blank disks. HARDCORE now also offers for every issue:

1. A Best Letter Prize of £5.00
2. A Best Quick Tip or One Liner Program Prize of £5.00
3. For the best overall home grown contribution - a box of disks.

REMEMBER - WE REALLY DO NEED YOUR CONTRIBUTIONS - NOW.

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Peanut list a comprehensive range of Apple compatible products. For full details, contact us or see our ad. in Apple User. Here are some of our most popular items :

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Just card and software needed - nothing else !

NEW Soft-switch upgrade for Peanut or Videx 80 column card. .... £14.95

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Don't forget Peanut Disk Drives, we claim U.K. lowest prices :

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ACCESS  
WELCOME

# DIARY

## February

5th	Herts Group. 8pm.
6th	Essex Group. 8pm.
7th	Central London Group. 6pm.
8th	Birmingham Group. 8pm.
11th	Berks & Hants Group. 7.30pm.
18th	Croydon Group. 7pm.
20th	Essex Group. 8pm.
	Harrogate Group. 7.30pm.

## March

5th	Herts Group. 8pm.
6th	Essex Group. 8pm.
14th	Central London Group. 6pm.
8th	Birmingham Group. 8pm.
11th	Berks & Hants Group. 7.30pm.
18th	Croydon Group. 7pm.
20th	Essex Group. 8pm.
	Harrogate Group. 7.30pm.

## April

2nd	Herts Group. 8pm.
3rd	Essex Group. 8pm.
4th	Central London Group. 6pm.
8th	Easter Monday
12th	Birmingham Group. 8pm.
15th	Croydon Group. 7pm.
17th	Essex Group. 8pm.
	Harrogate Group. 7.30pm.

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Apple Games Exchange	16
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P & P Micro Distributors	48
Rosco Ltd.	24
Scientific Software	18
Wolfcrowne	9

## Advertising Rates

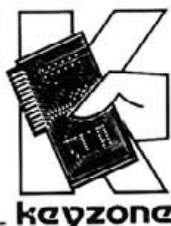
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### Copy Dates

Date	Edition
March 1st	April
May 3rd	June
July 5th	August
September 2nd	October

# SOLID STATE DESK TOP SWITCHING DEVICES



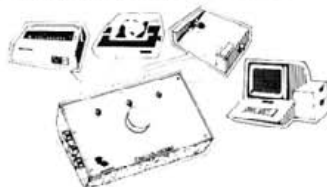
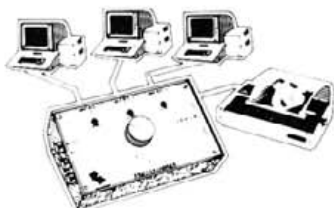
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# SoftCard squeezes the most juice out of your Apple.



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Microsoft Premium SoftCard IIe is the high-performance CP/M board that really juices the Apple IIe.

## Hard facts on SoftCard.

It has a high speed (6MHz) Z-80 that runs CP/M up to three times faster than lesser boards. Plus 64K memory and 80-column display that fits the IIe auxiliary slot and acts like Apple's own Extended 80-column Card. So it works with CP/M, Apple DOS and ProDOS programs, too.

Microsoft BASIC is built-in, so it's compatible with more Apple CP/M software than any other board on the market: Thousands of the juiciest business programs including dBase II, WordStar and sophisticated Microsoft languages like

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Juicing up the performance of computers is nothing new for us. We invented the SoftCard and make versions for the entire Apple family. We wrote Applesoft for the Apple II.

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